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1. Introduction

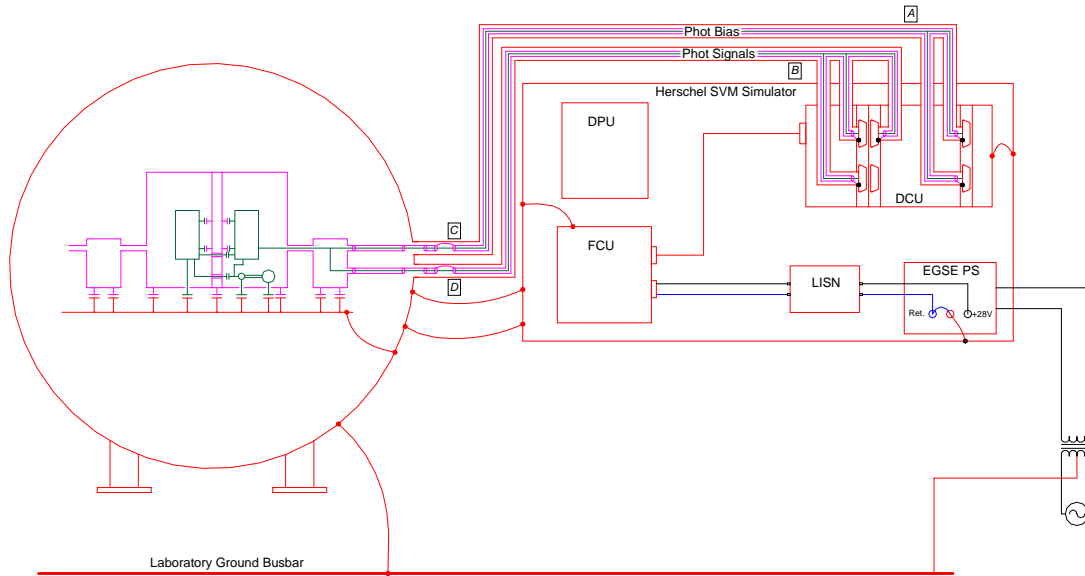


Figure 1 - Test setup

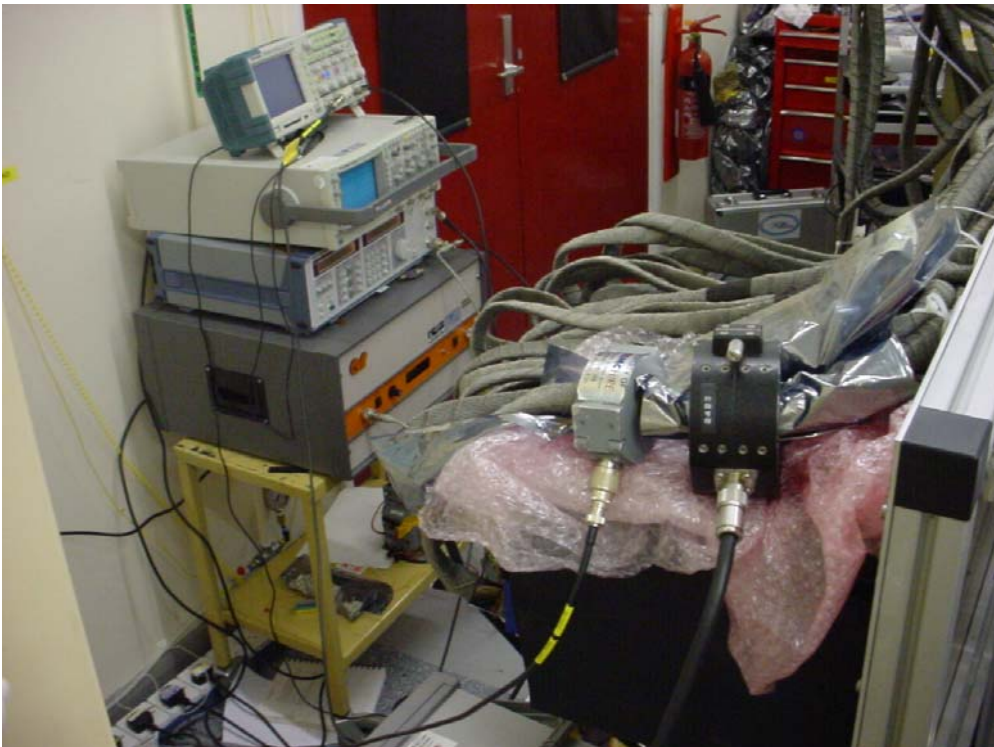


Figure 2 - Injection onto the C3 Phot Bias harness near the DCU

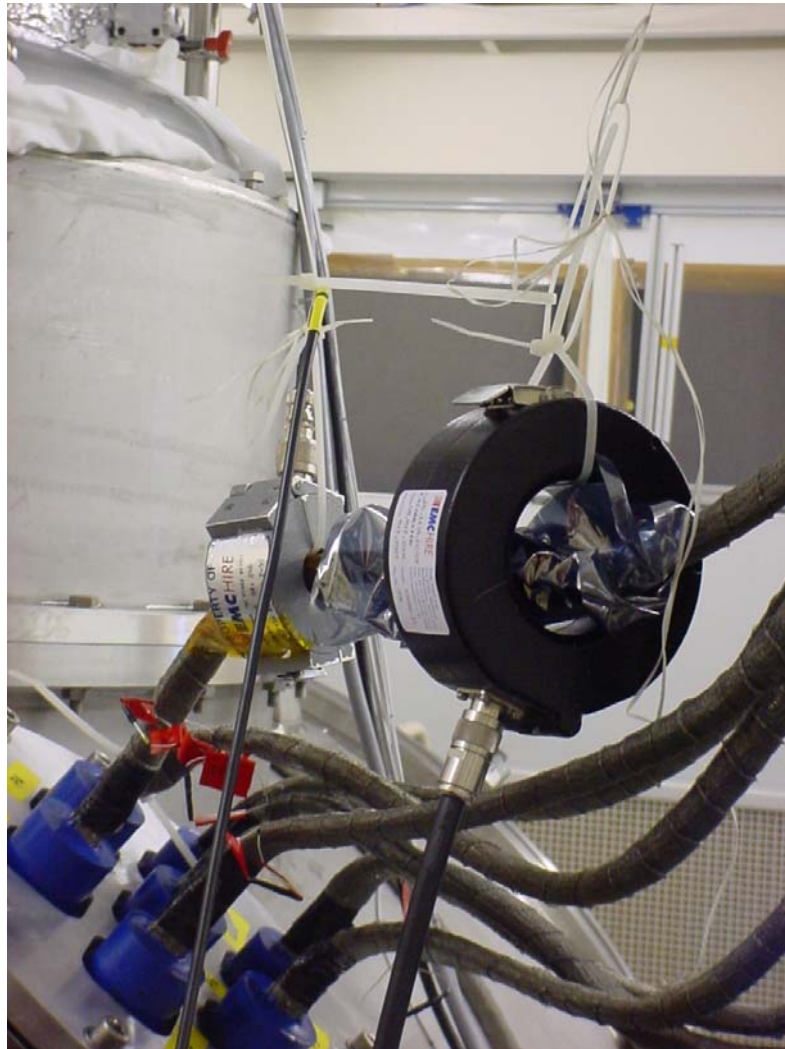


Figure 3 – BCI injection close to CVV

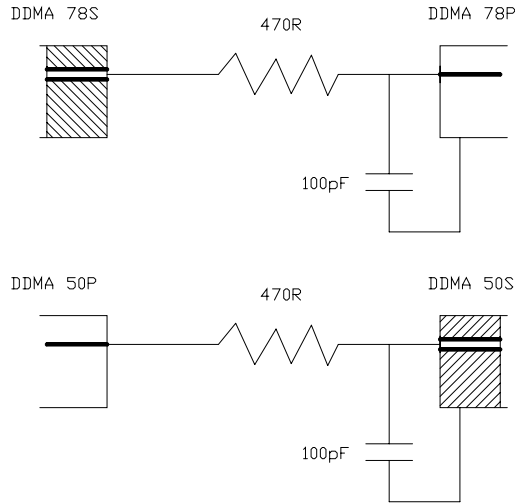
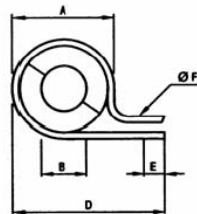
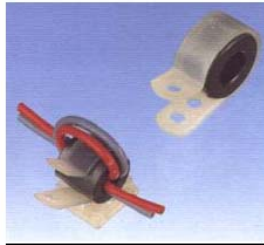


Figure 4 - "CEA Filters" The left hand side of the figure connects with the cryoharness and the right hand side mates with the DRCU.

EE-Seal Filters - 2200pF between each connector contact and backshell.

TRCN Split Ferrite Core with Nylon mounting



Split construction enables easy installation of cables already wired and installed, or cables with connectors on. The unit comes complete with mounting clamp.
 Suitable for single or multiple cables.

Specification

Part No	Dimensions					Impedance Ω 1 turn		Impedance Ω 2 turn		Maximum Cable Diameter
	A	B	C	D	E	25MHz	100MHz	25MHz	100MHz	
TRCN-16-8-13	19.4	8.2	13.0	30.2	4.3	59	93	231	396	8.00
TRCN-16-8-16	19.4	8.2	16.0	30.2	4.3	64	106	291	504	8.00
TRCN-20-10-10	25.7	10.4	10.0	38.2	5.1	53	84	203	360	10.0
TRCN-23-11-14	26.8	11.4	14.0	39.4	5.1	72	112	289	449	11.0
TRCN-28-16-13	32.8	16.4	13.0	45.0	5.1	56	90	325	579	16.0
TRCN-28-16-20	32.8	16.4	20.0	45.0	5.1	79	135	325	579	16.0
TRCN-40-27-15	44.6	27.4	15.0	57.3	5.1	48	84	195	365	27.0

Figure 5 - TRCN-40-27-15 used during tests.

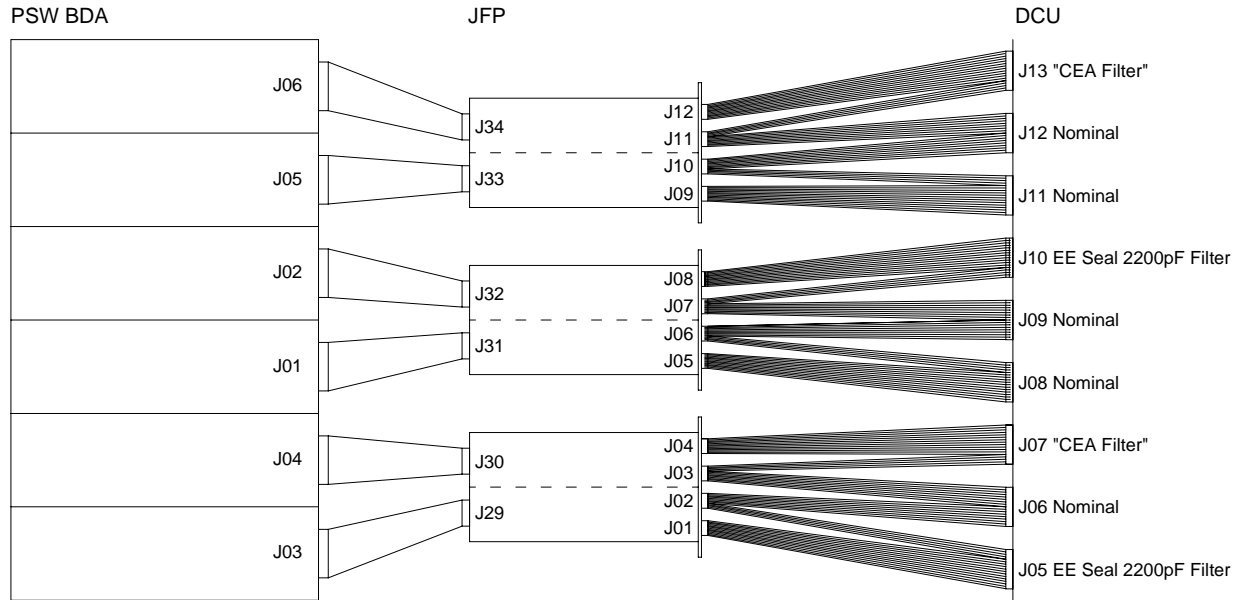


Figure 6 – Filter configuration 1

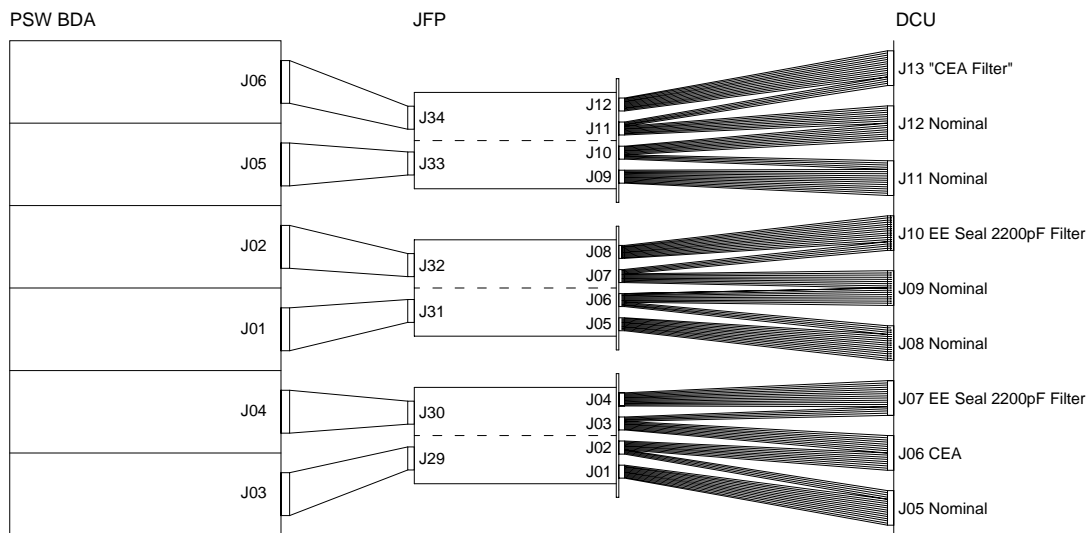


Figure 7 - Test configuration 2



2. Test results

2.1 Injection on Phot. Bias close to DCU (Filter config 1)

2.1.1 1-3 MHz

On Phot. Bias (C3) near DCU
1-3MHz

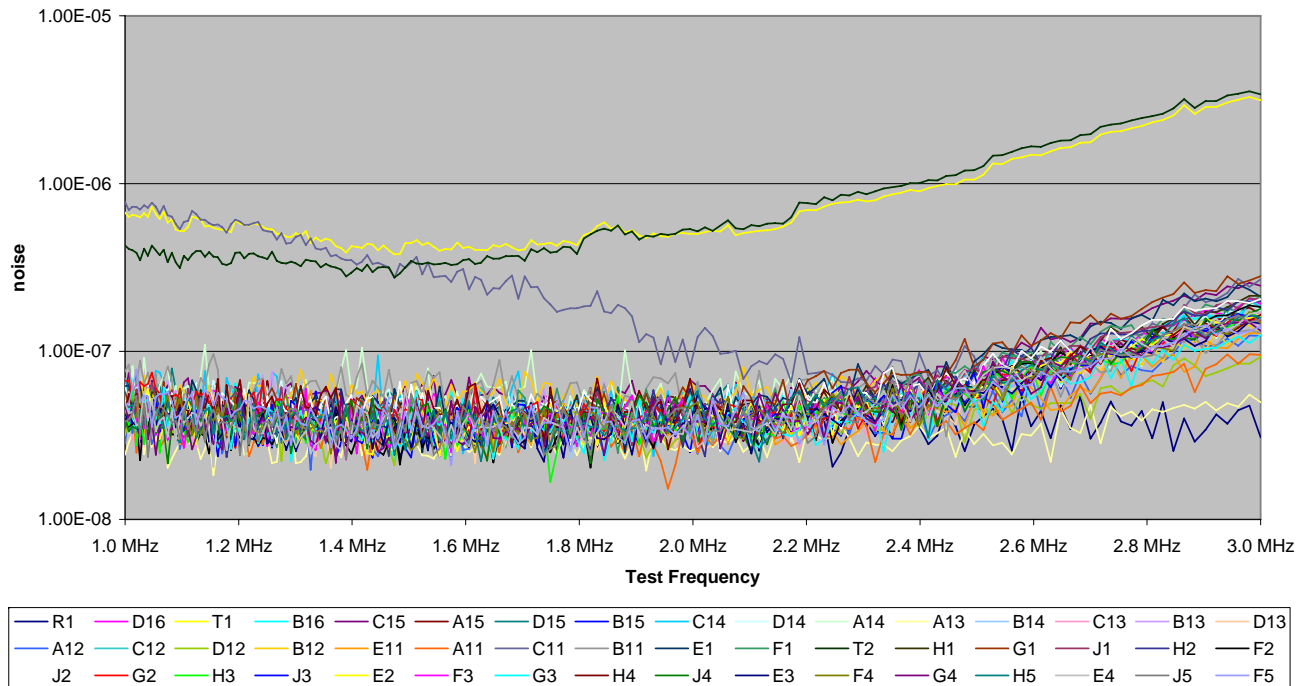


Figure 8

ObsID: 0x3000E360



On Phot. Bias (C3) near DCU 1-3 MHz

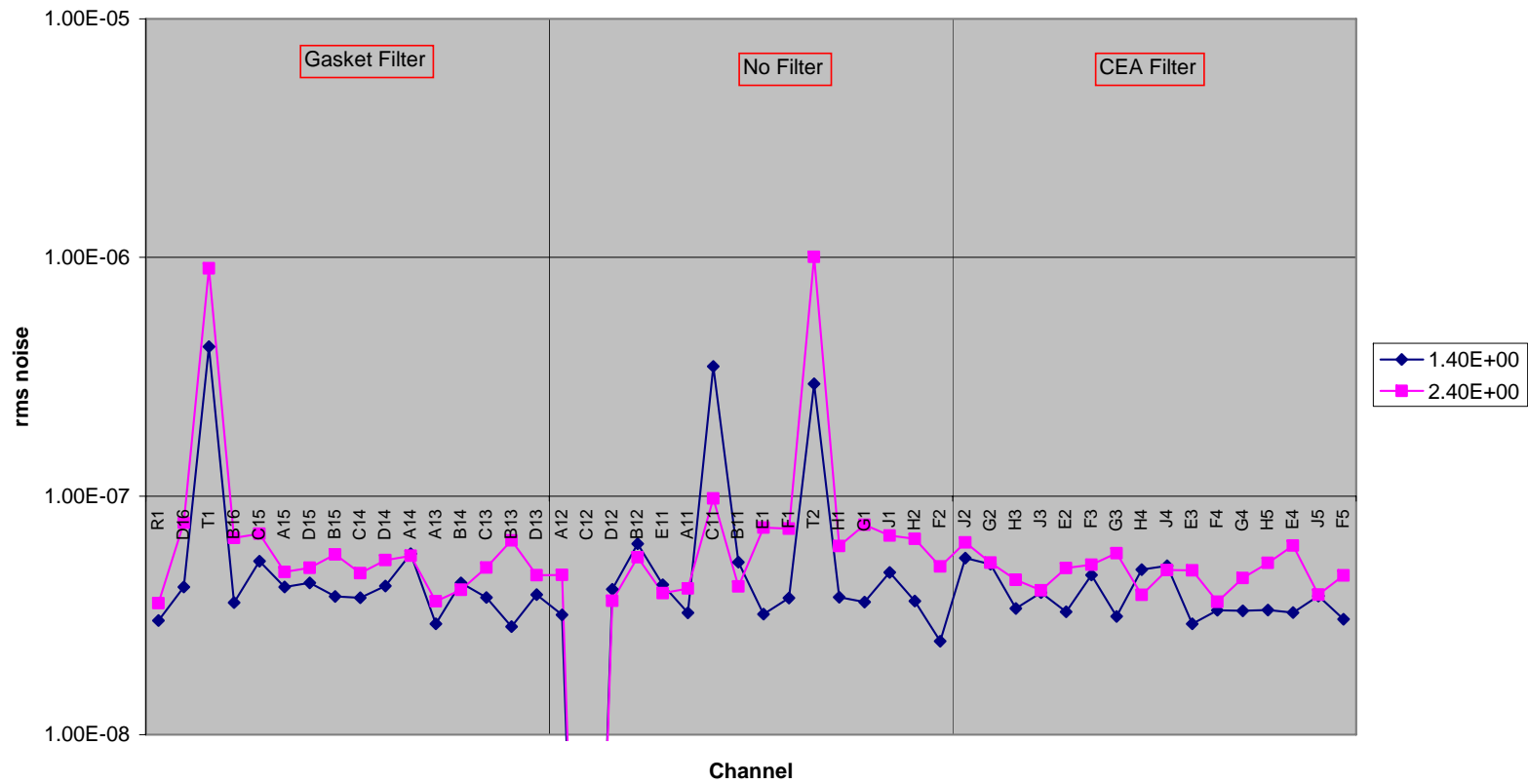


Figure 9



2.1.2 3-10 MHz

On Phot. Bias (C3) near DCU
3-10MHz

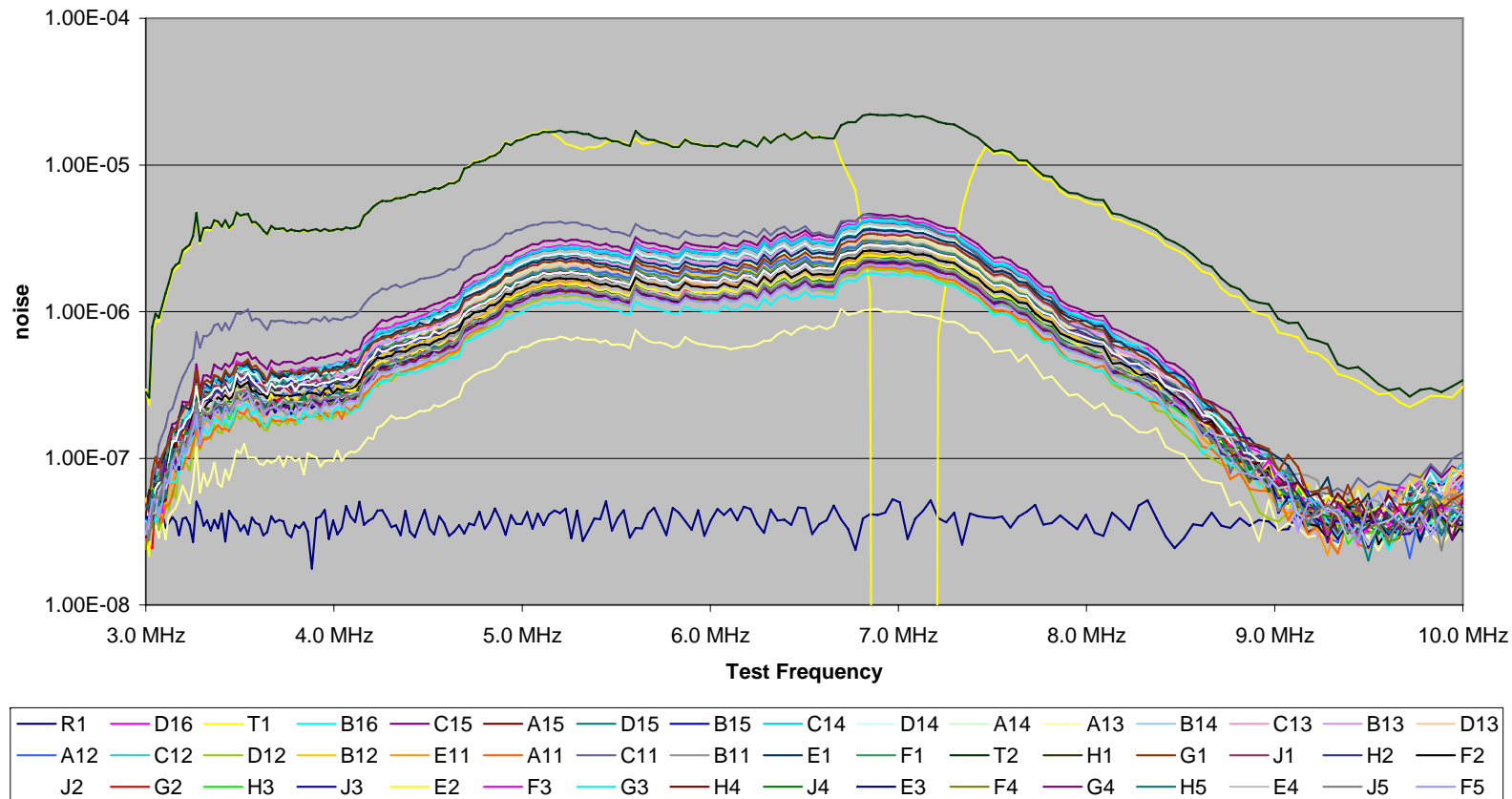


Figure 10



On Phot. Bias (C3) near DCU 3-10 MHz

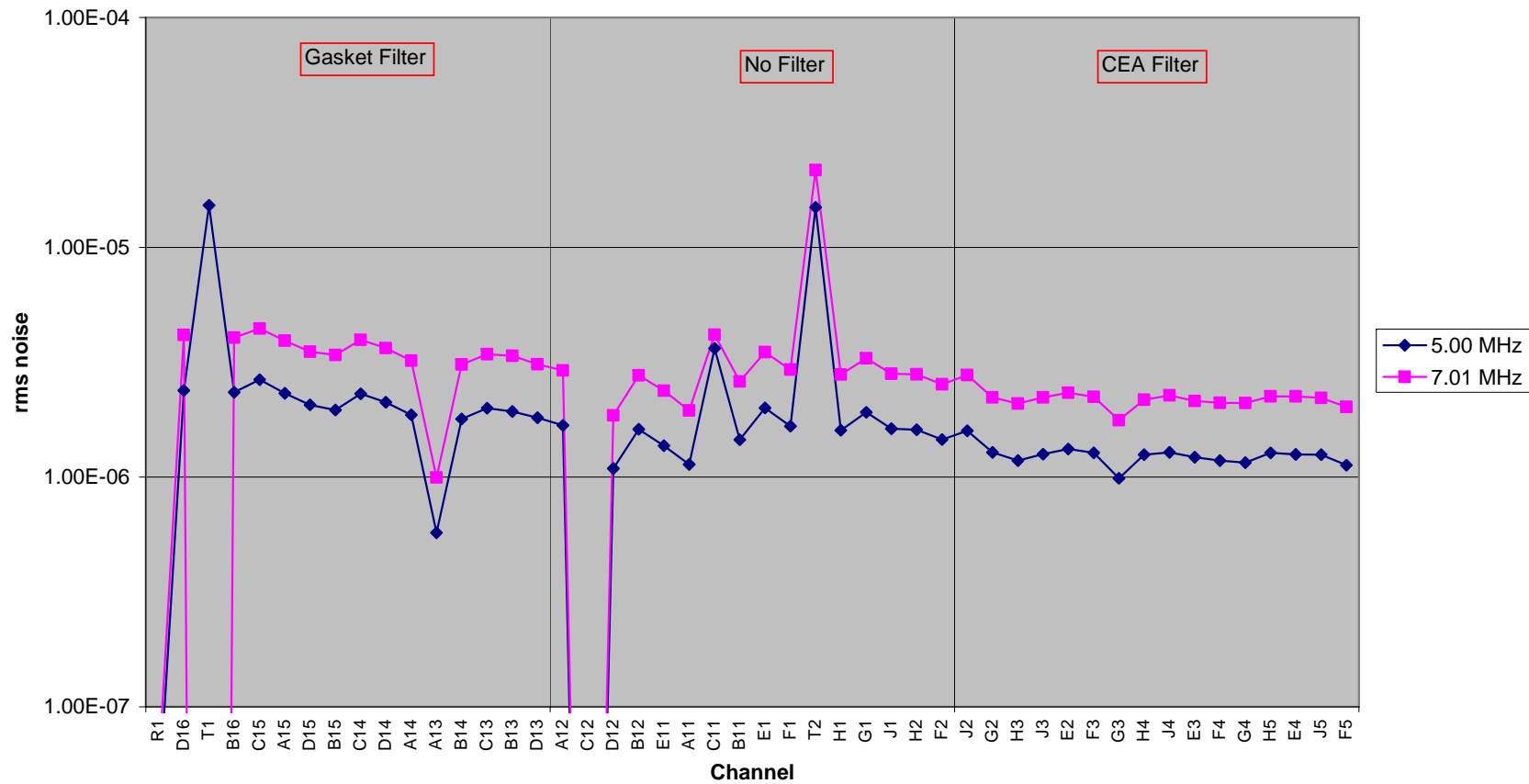


Figure 11



2.1.3 10-30 MHz

On Phot. Bias (C3) near DCU
10-30MHz

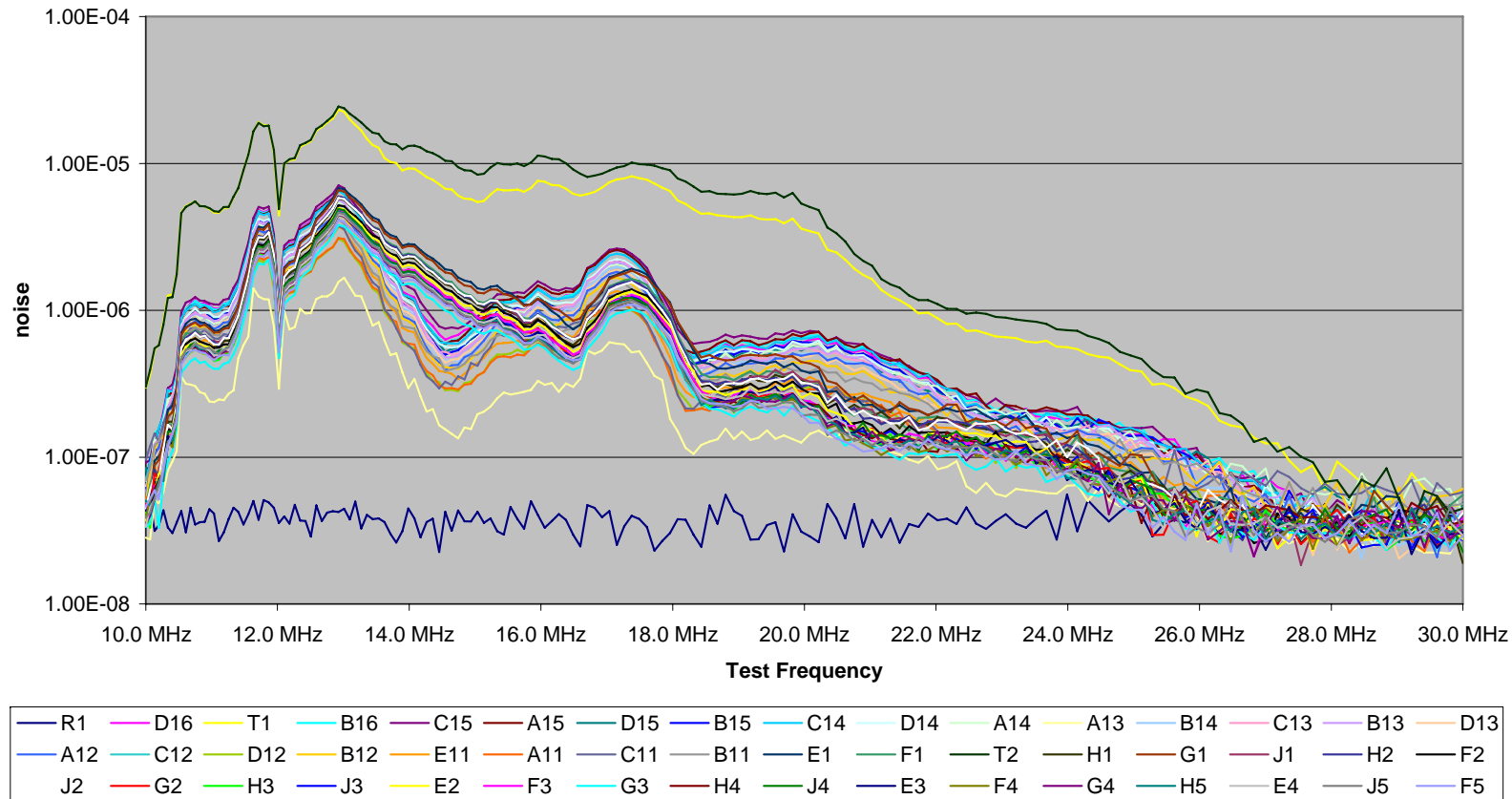


Figure 12



On Phot. Bias (C3) near DCU 10-30 MHz

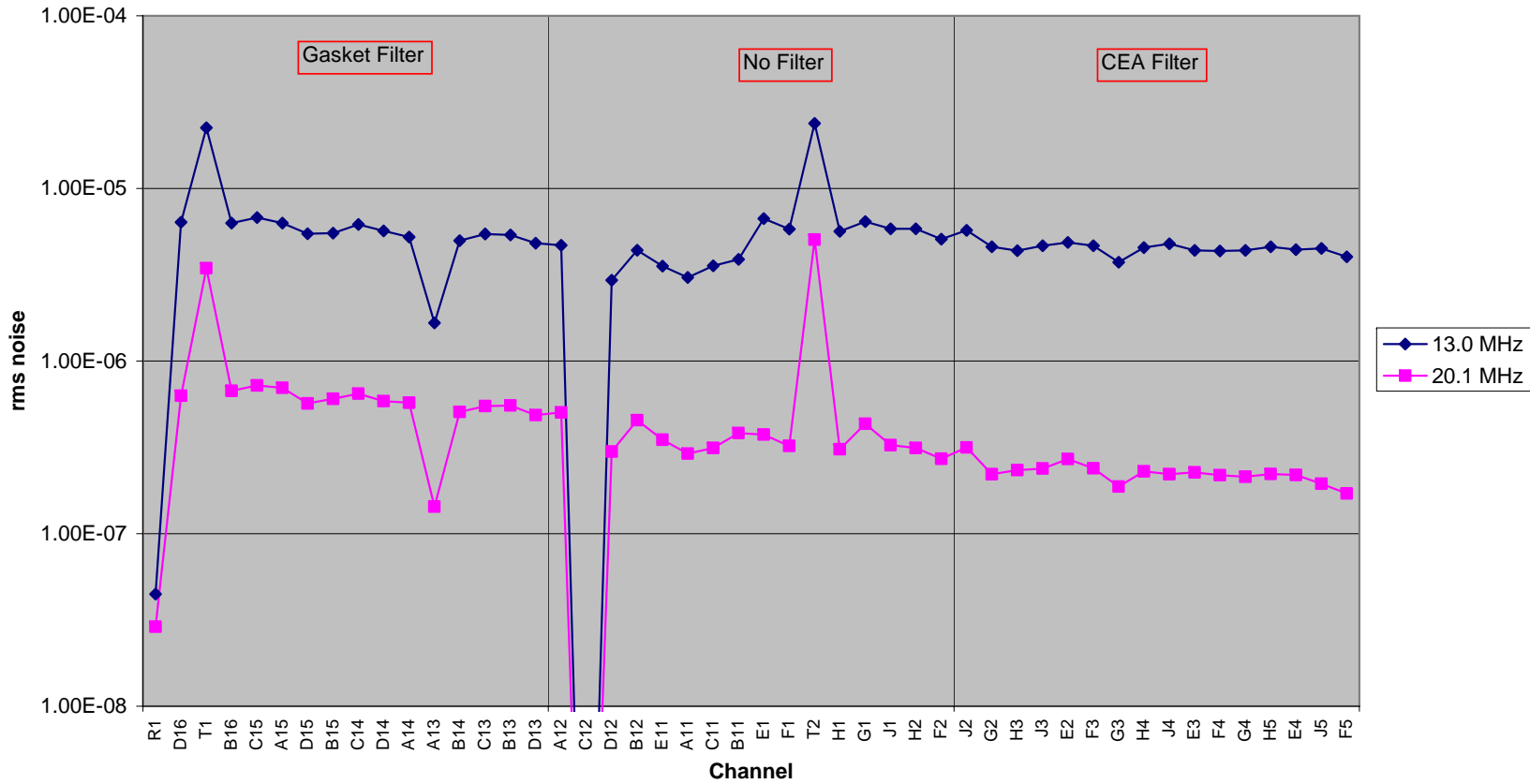


Figure 13



2.1.4 30-50 MHz

On Phot. Bias (C3) near DCU
30-50 MHz

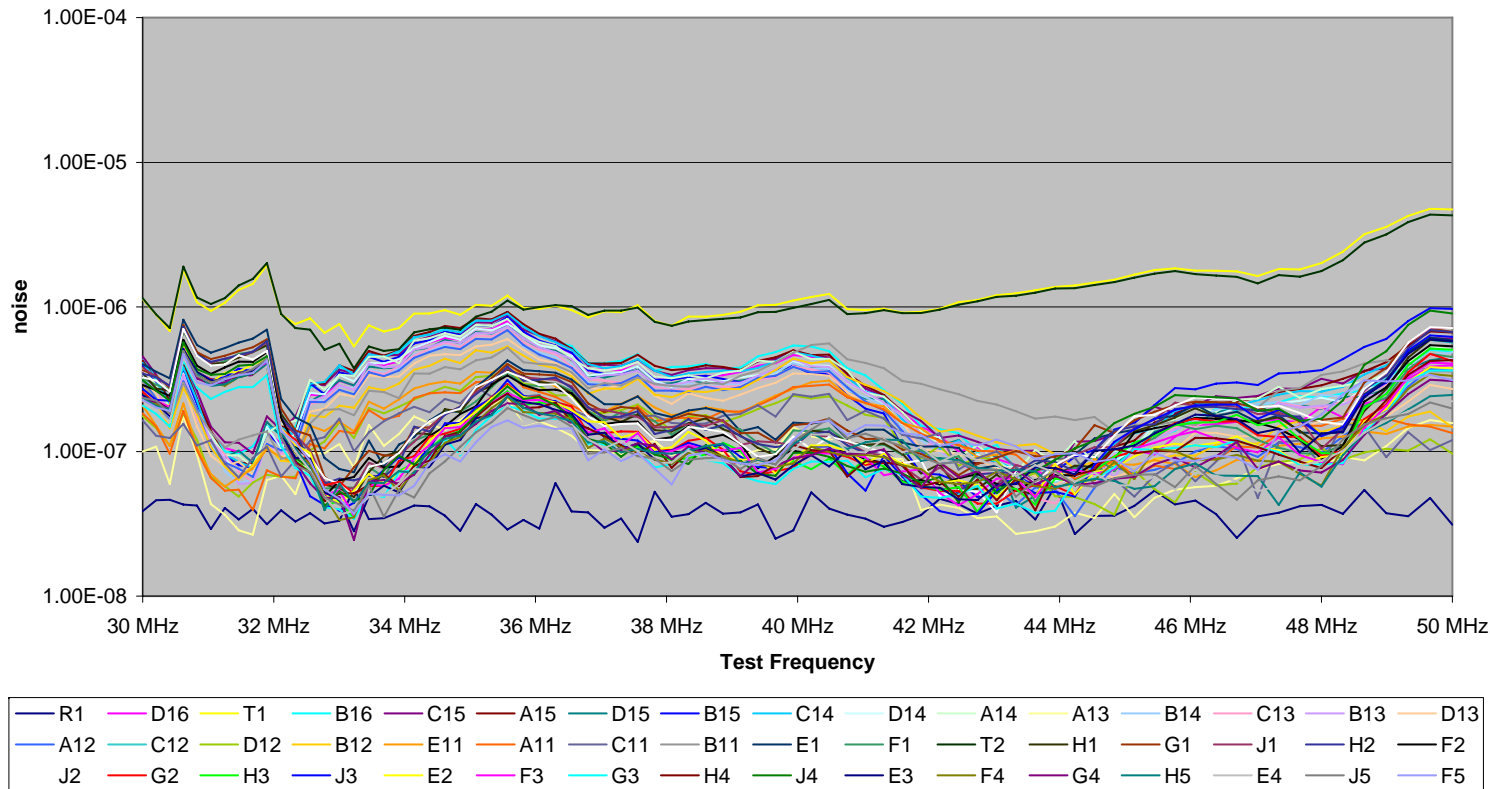


Figure 14



On Phot. Bias (C3) near DCU 30-50 MHz

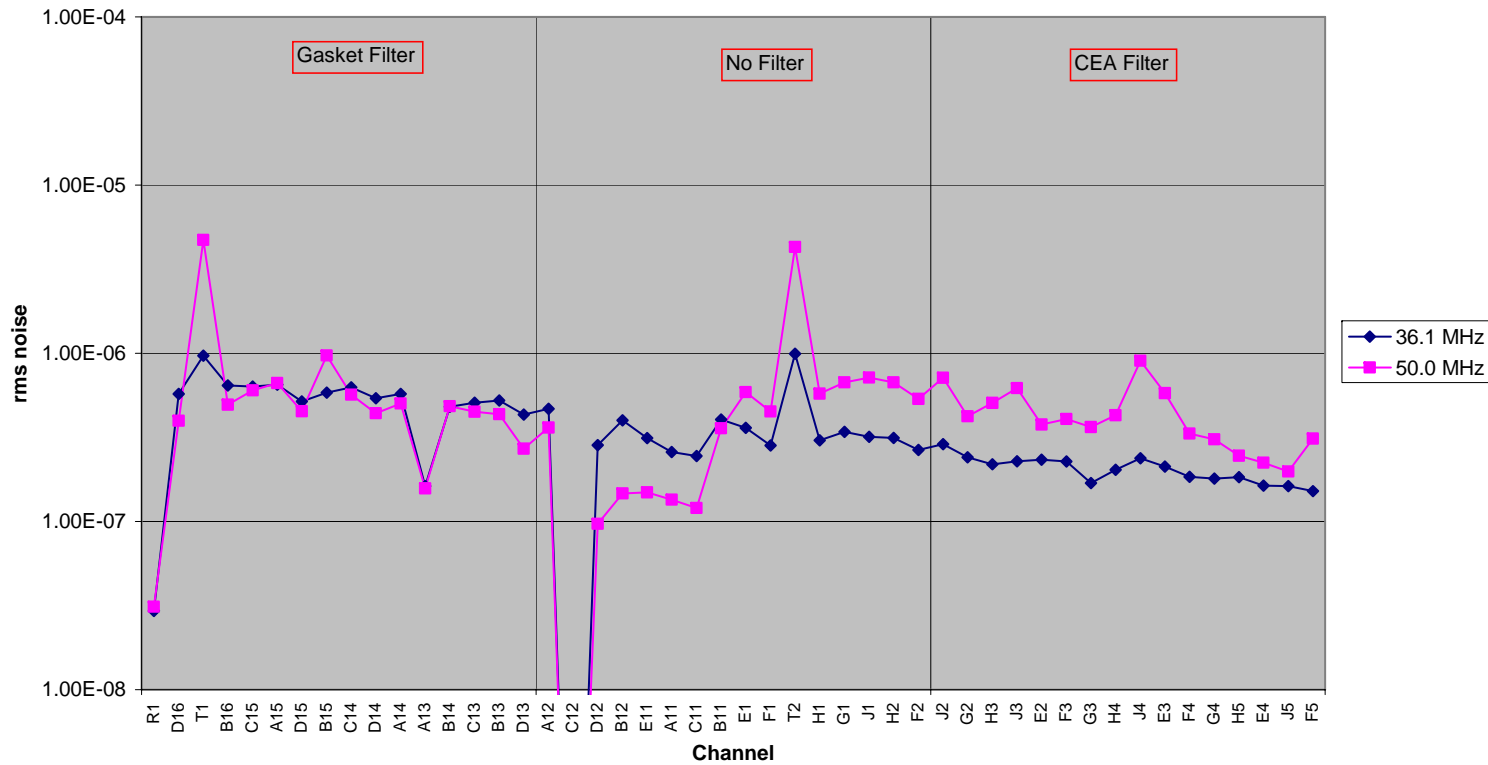


Figure 15



2.2 Injection on Phot. Bias close to CVV (Filter config 1)

2.2.1 1-3 MHz

On Phot Bias (C3) near CVV
1-3MHz

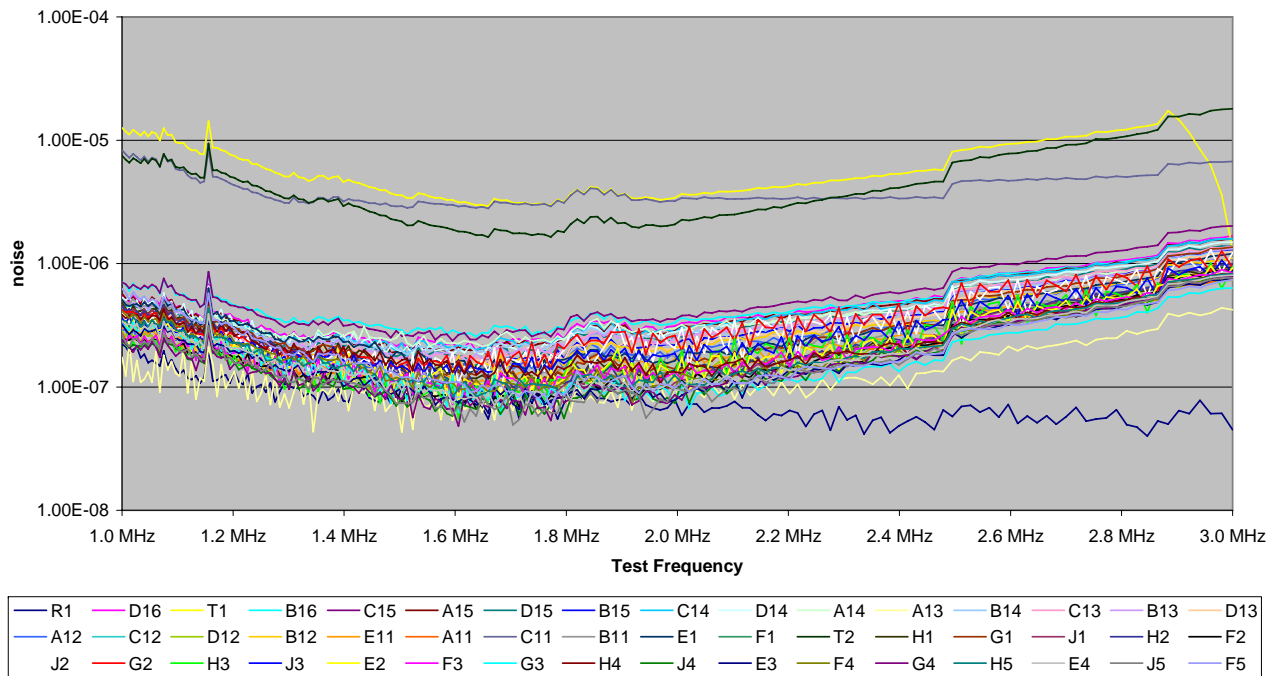


Figure 16



On Phot Bias (C3) near CVV 1-3MHz

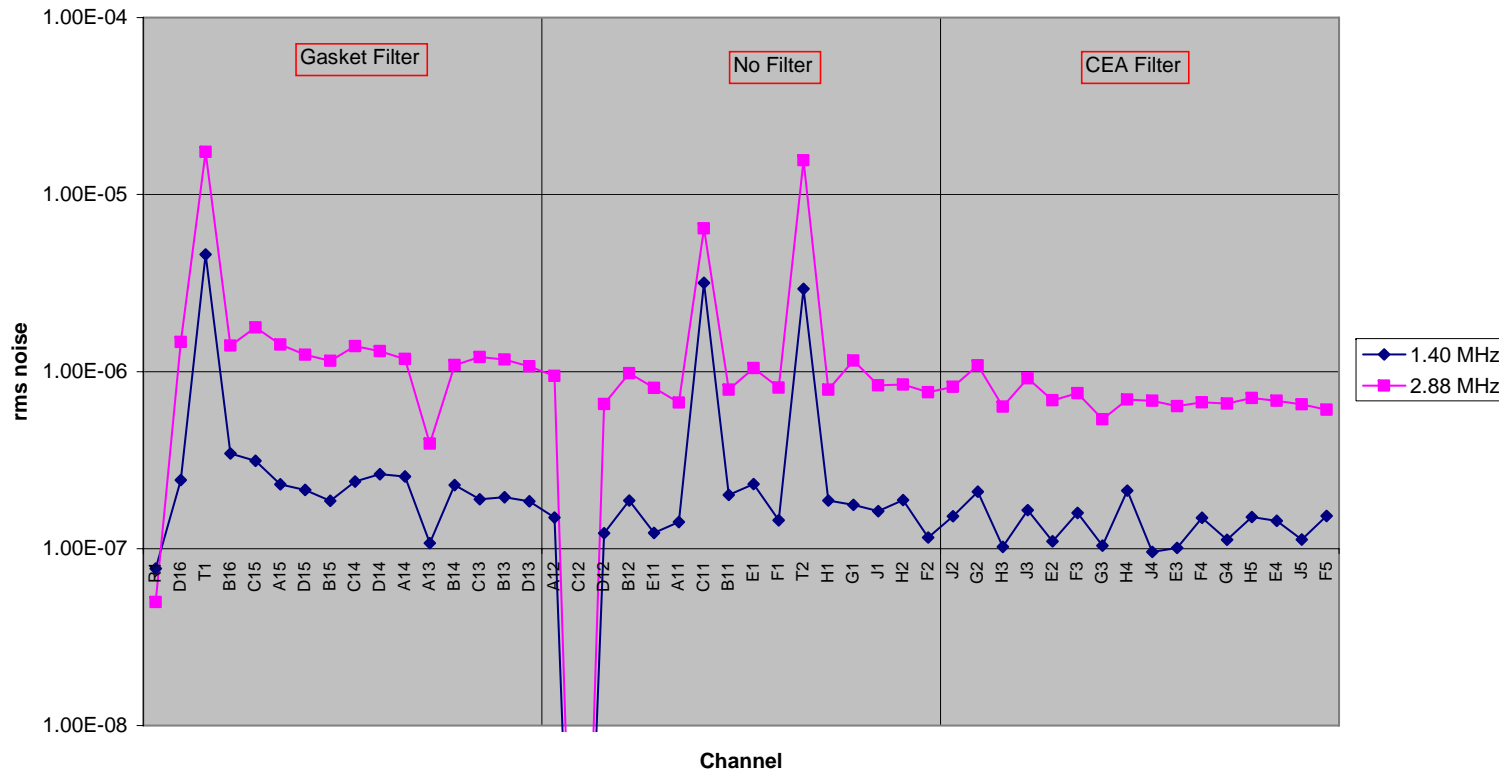


Figure 17



2.2.2 3-10 MHz

On Phot. Bias (C3) near CVV
3-10 MHz

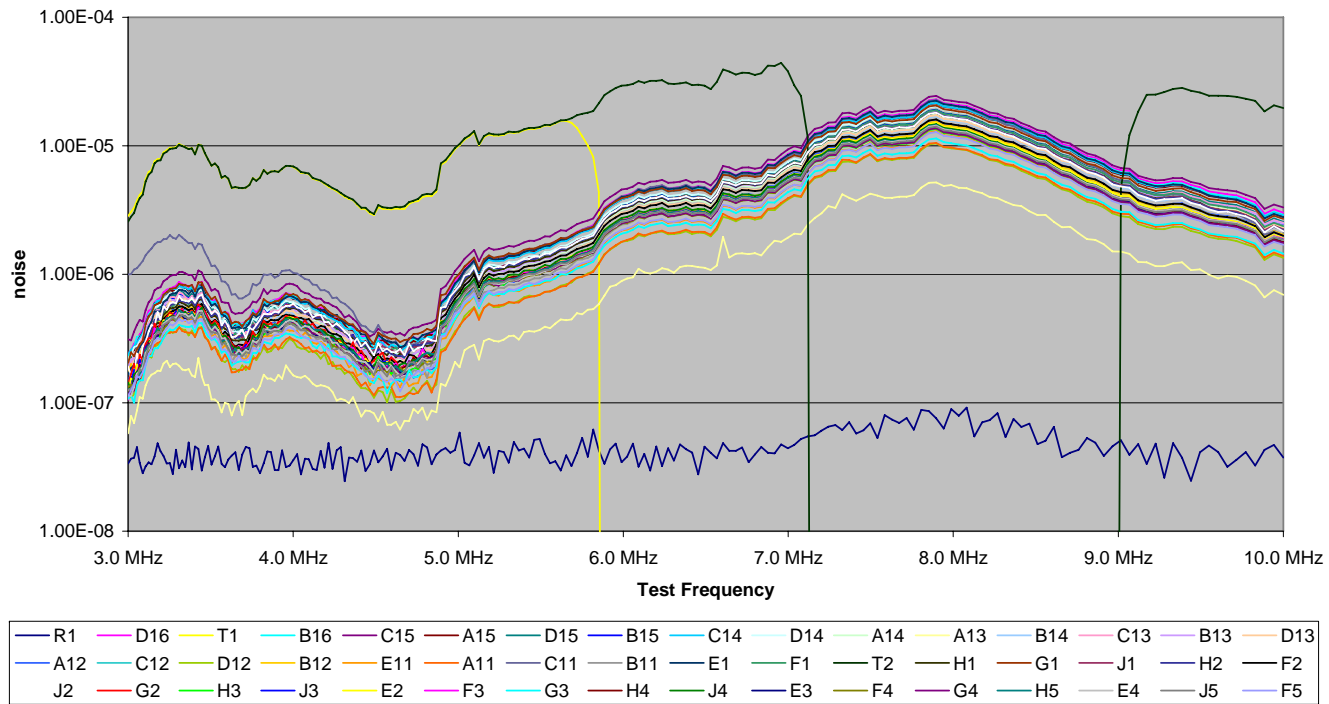


Figure 18



On Bias (C3) near CVV 1-3 MHz

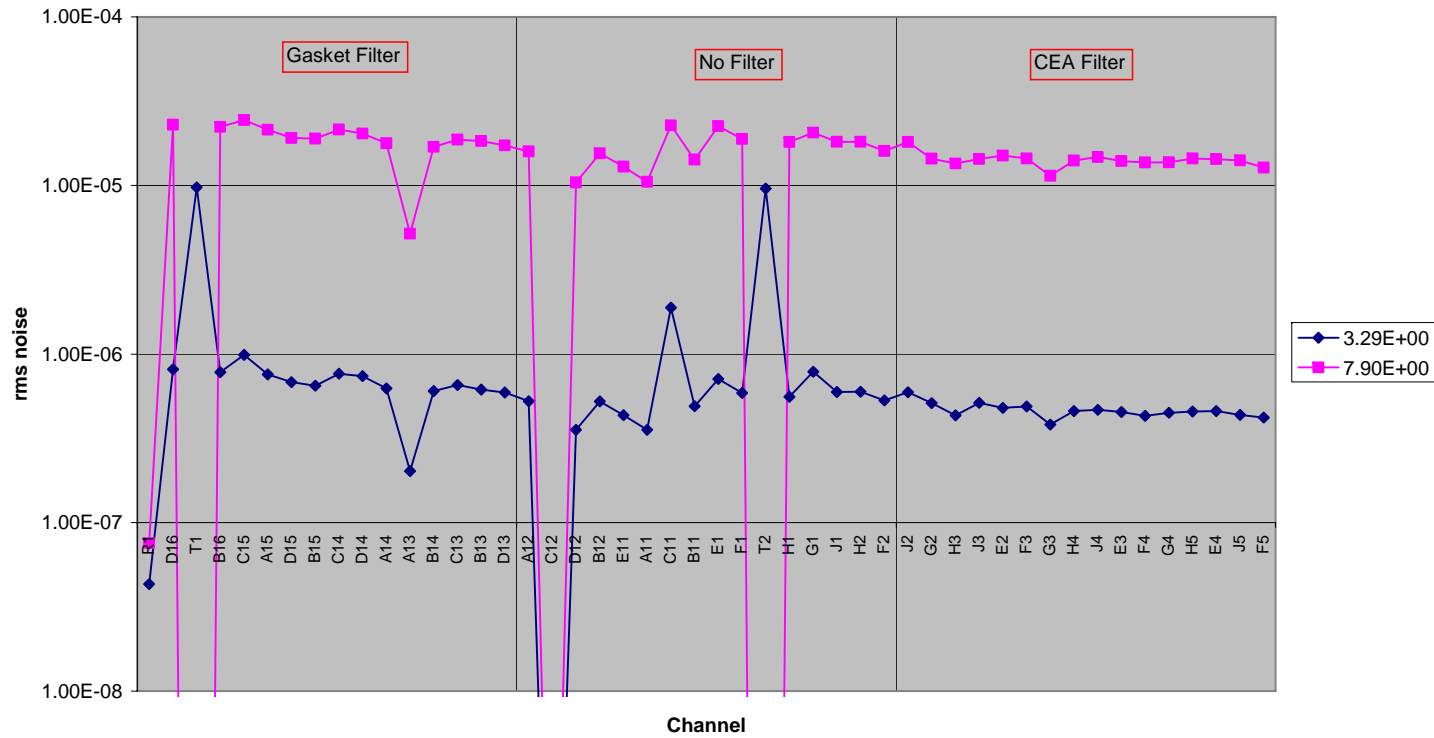


Figure 19

2.2.3 10-30 MHz



On Phot. Bias (C3) near CVV 10-30 MHz

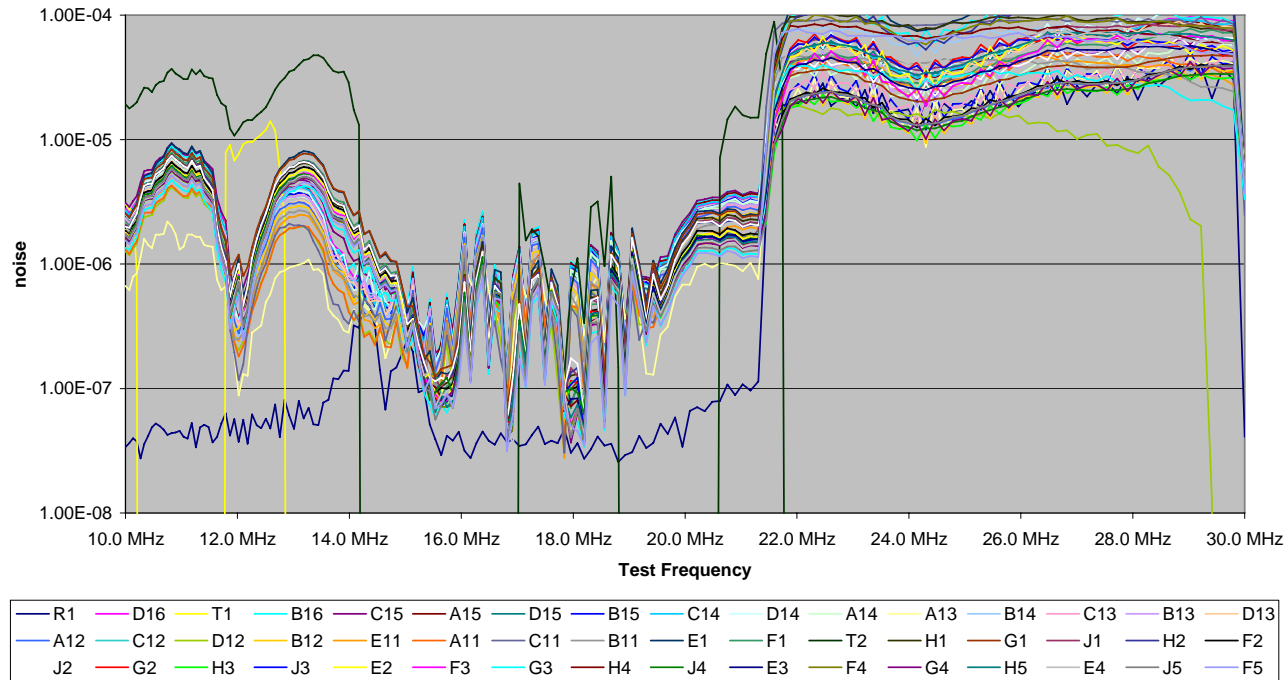


Figure 20



On Phot. Bias (C3) near CVV
10-30 MHz

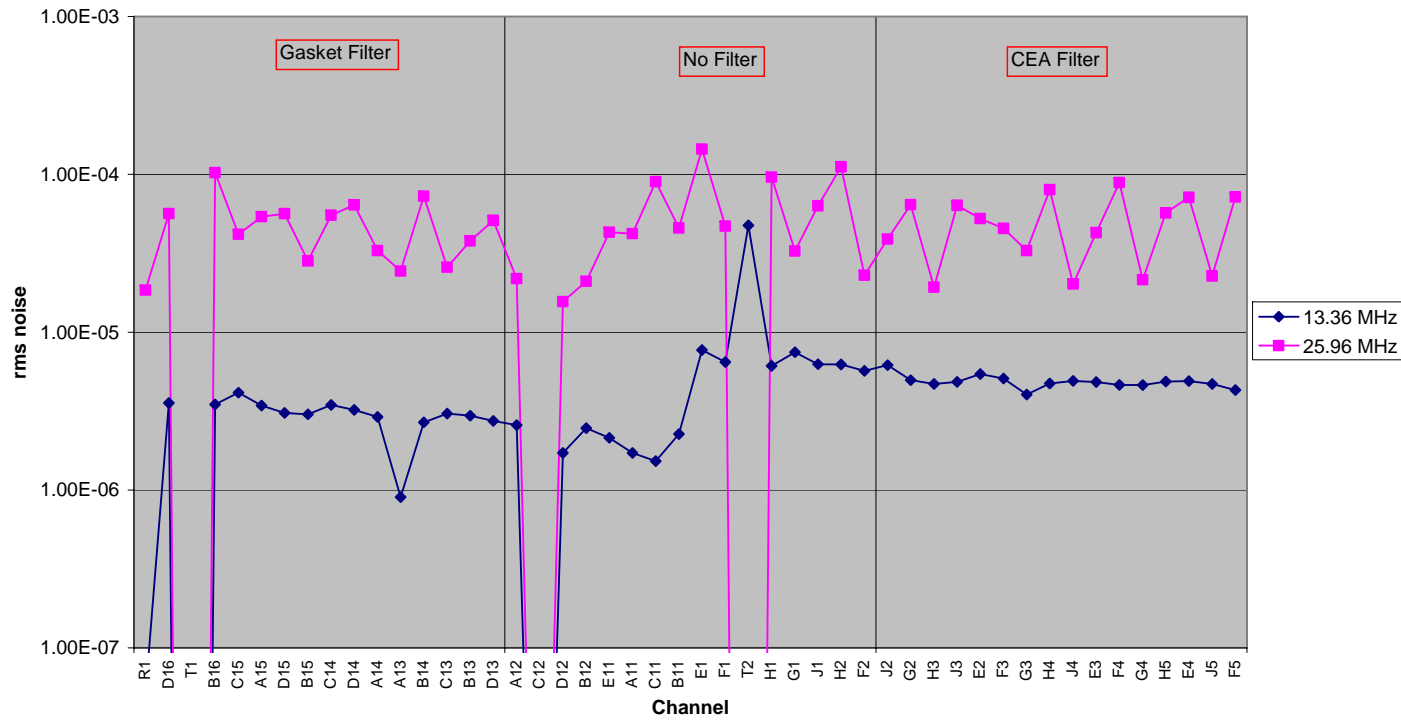


Figure 21



2.2.4 30-50 MHz

On Phot. Bias (C3) near CVV
10-30 MHz

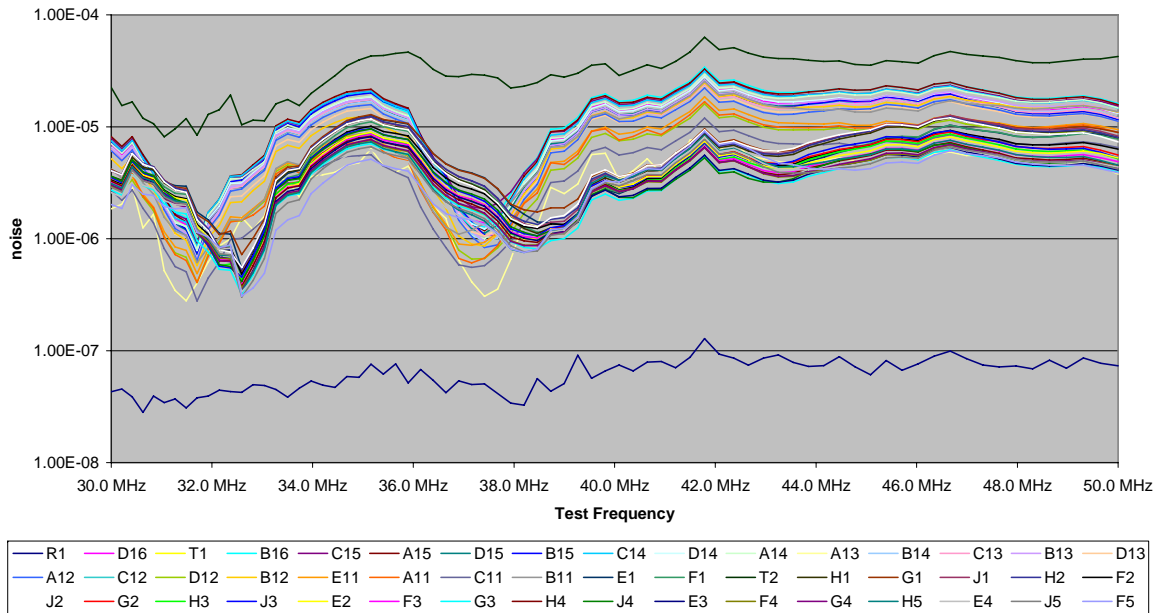


Figure 22



On Phot. Bias (C3) near CVV
30-50 MHz

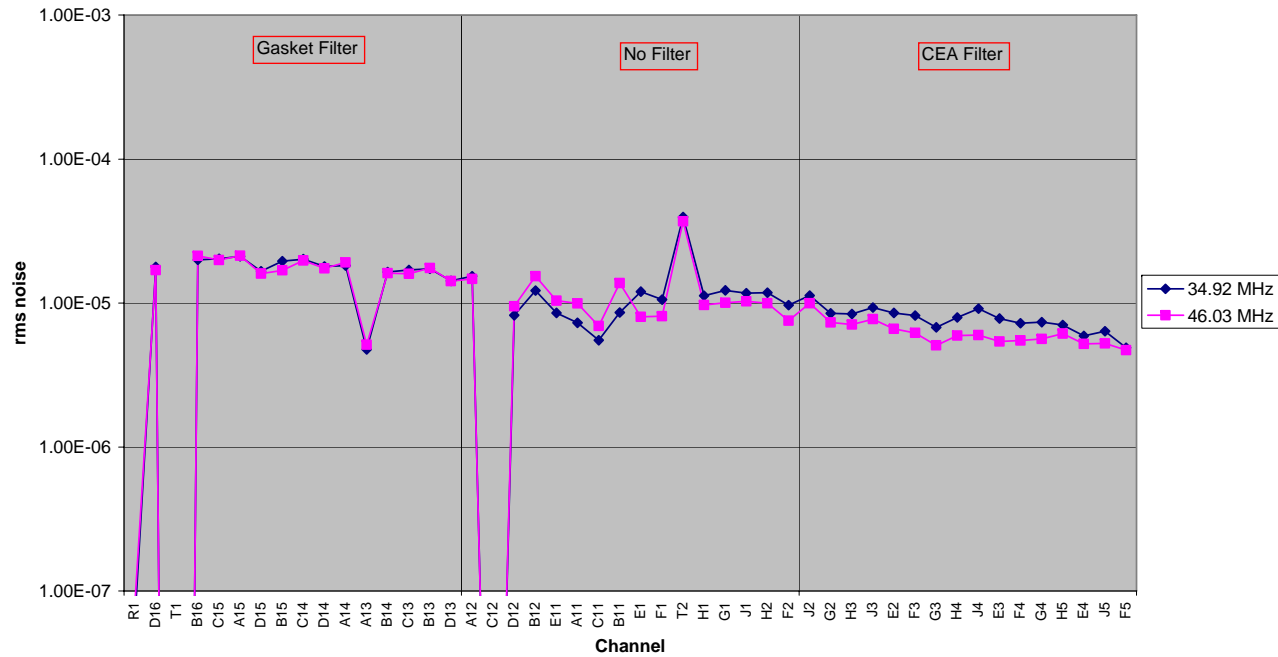


Figure 23

2.3 Injection on detector signals close to DCU (C9) (Filter config 1)



2.3.1 1-3 MHz

Injection on PSW (C9) near DCU
1-3 MHz

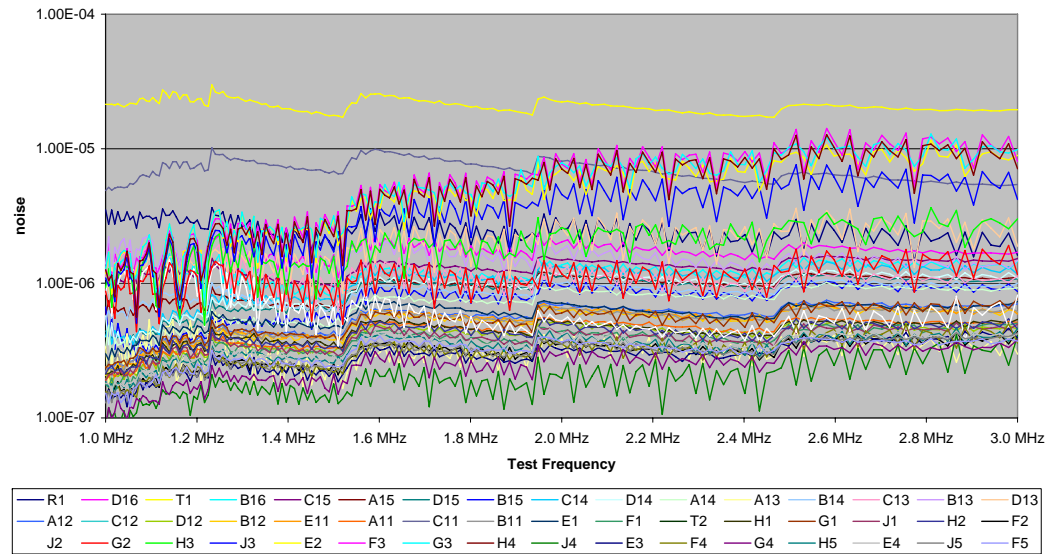


Figure 24



Injection on PSW (C9) near DCU 1-3 MHz

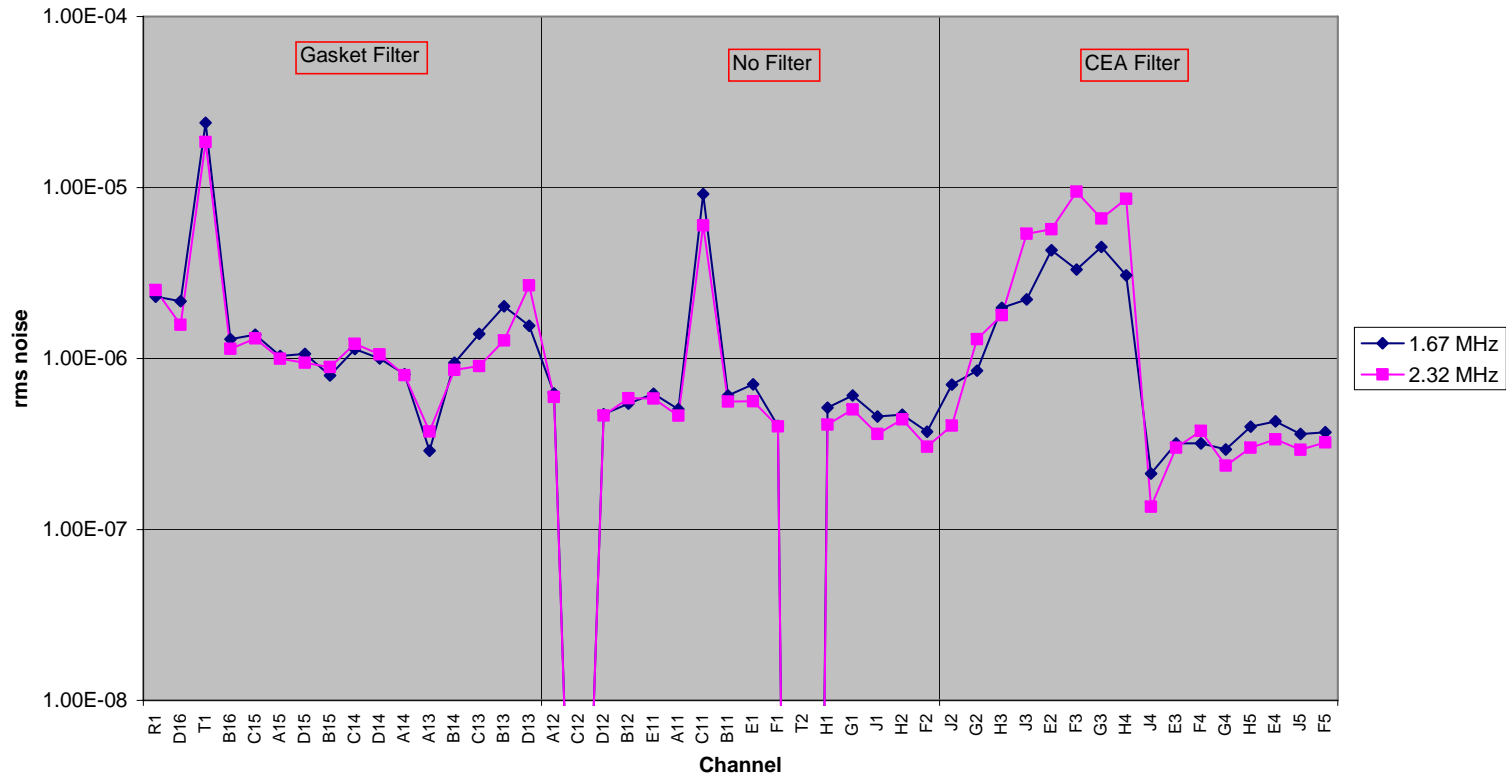


Figure 25



2.3.2 3-10 MHz

Injection on PSW (C9) near DCU
3-10MHz

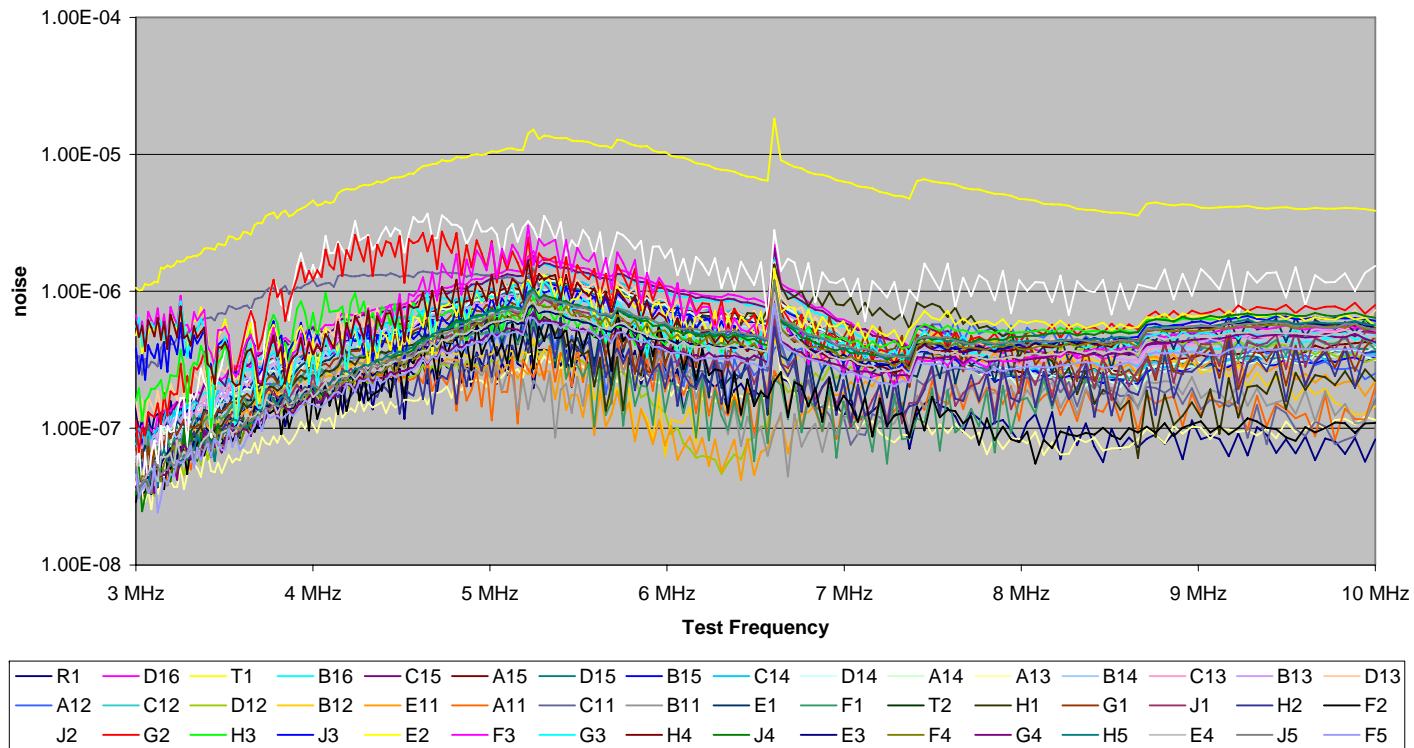


Figure 26



Injection on PSW (C9) near DCU 3-10MHz

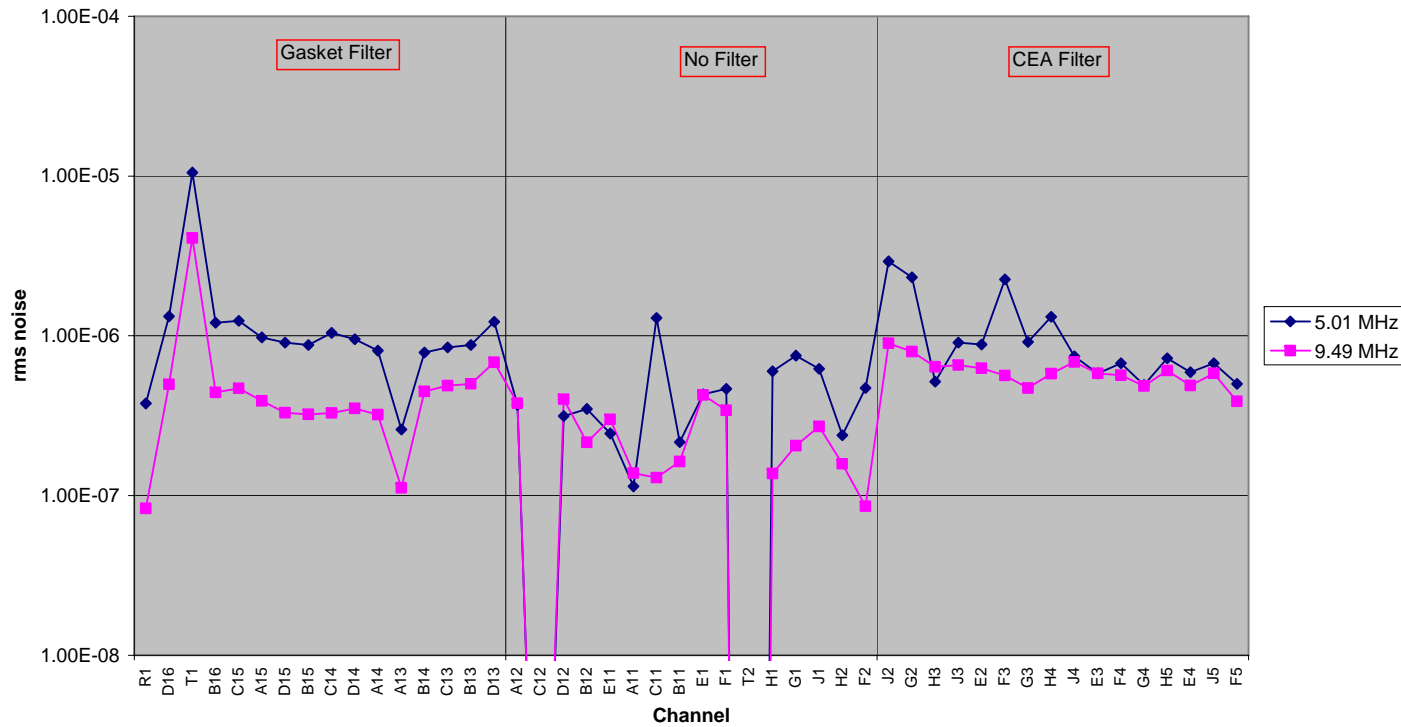


Figure 27



2.3.3 10-30 MHz

On PSW (C9) near DCU
10-30MHz

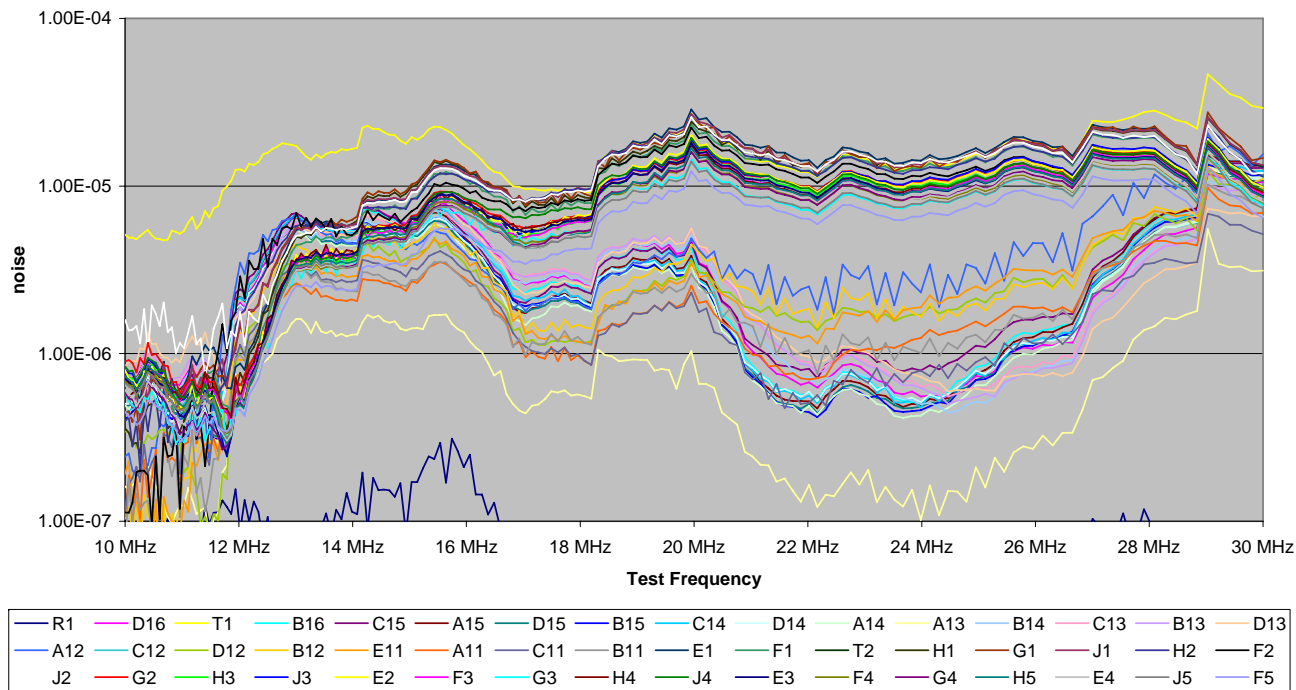


Figure 28



On PSW (C9) near DCU 10-30MHz

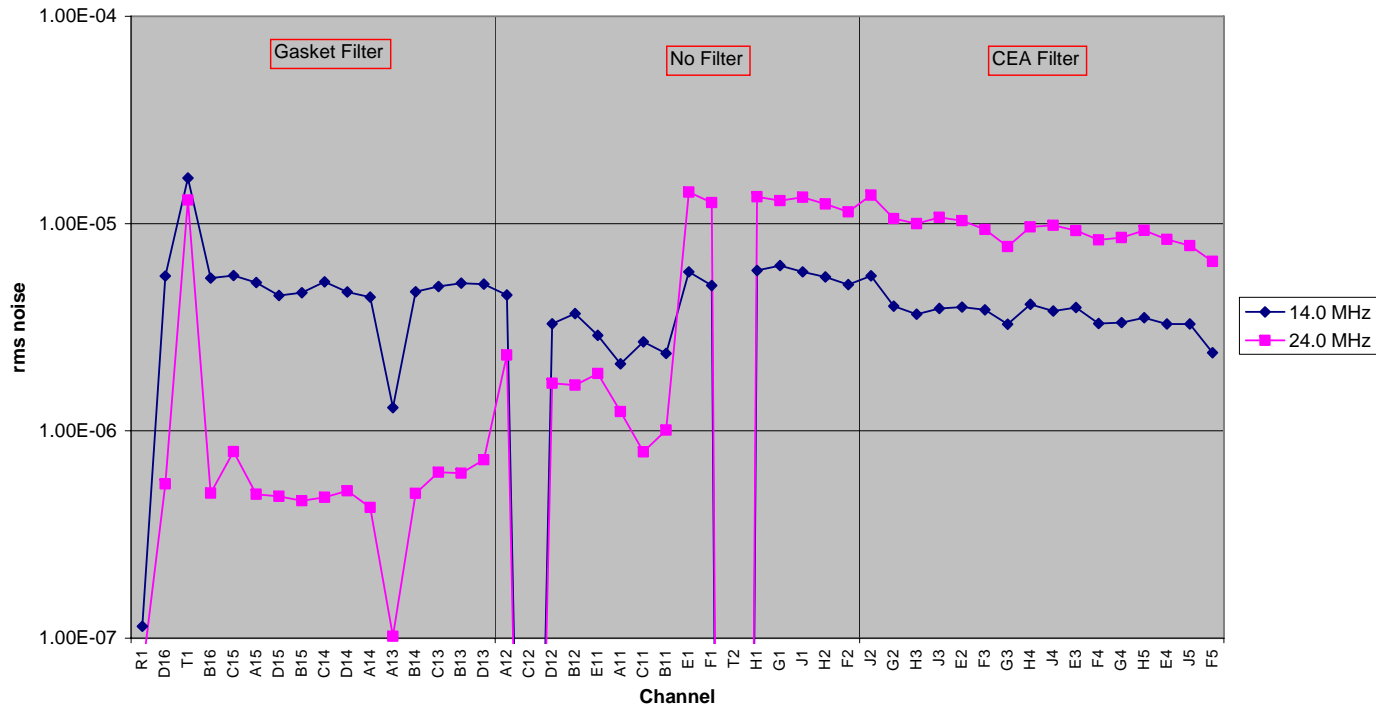


Figure 29



2.3.4 30-50 MHz

Injection on PSW (C9) near DCU
30-50 MHz

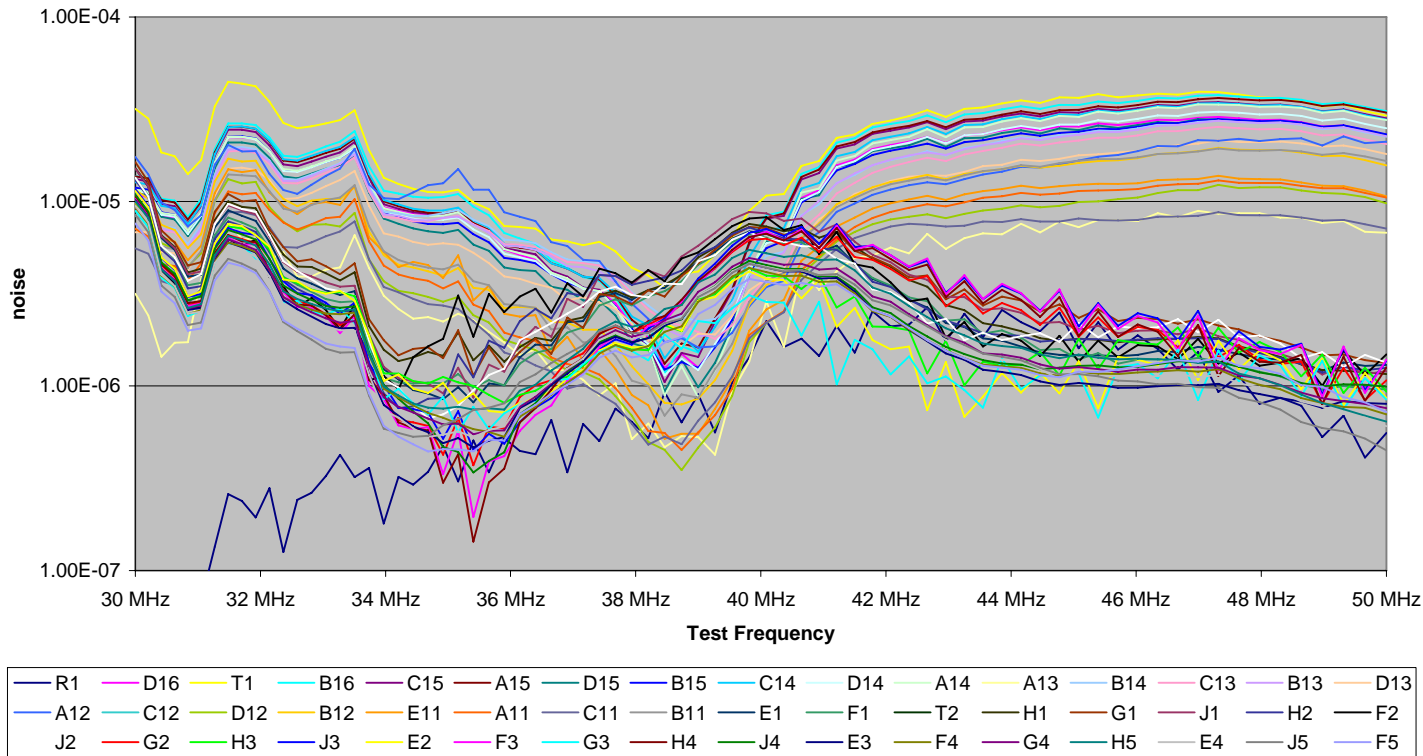


Figure 30



Injection on PSW (C9) near DCU 30-50MHz

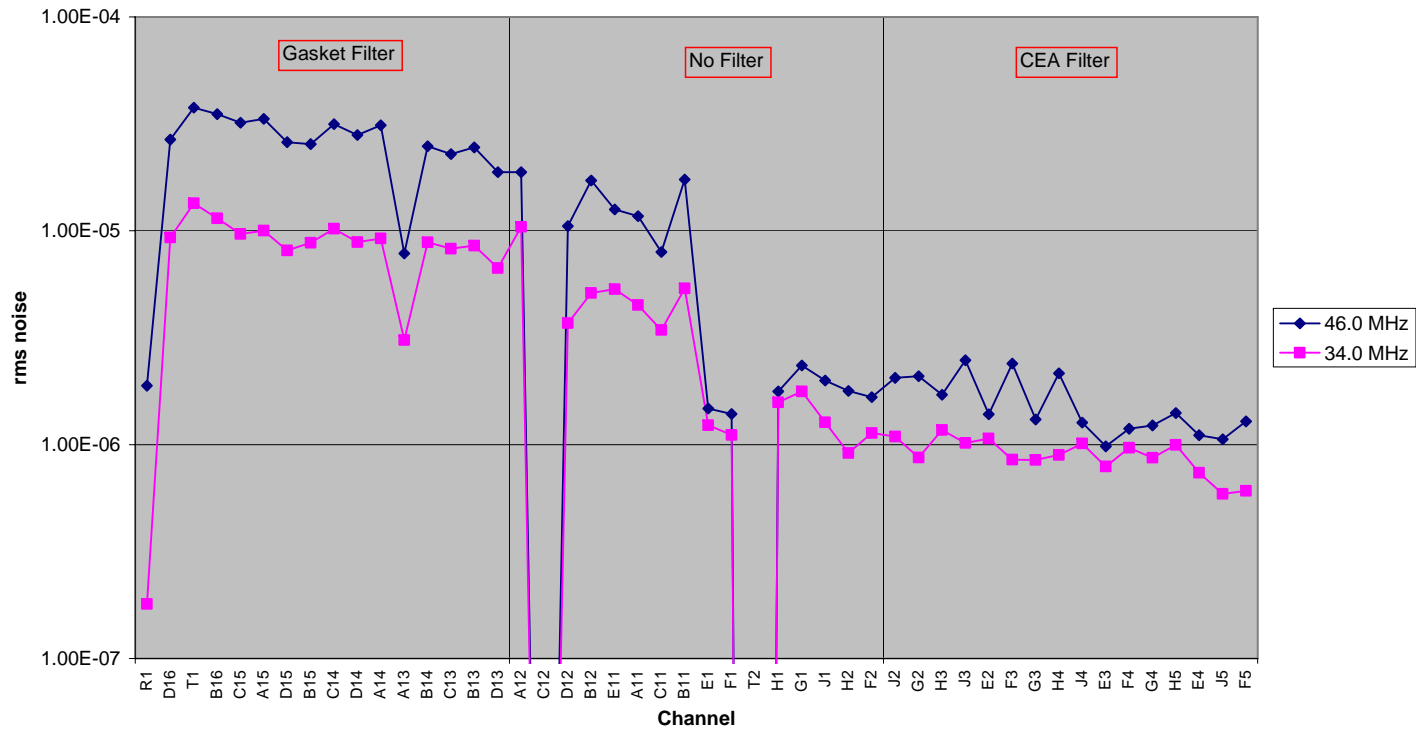


Figure 31



2.4 Injection on detector signals close to CVV (C9) (Filter config 1)

2.4.1 1-3 MHz

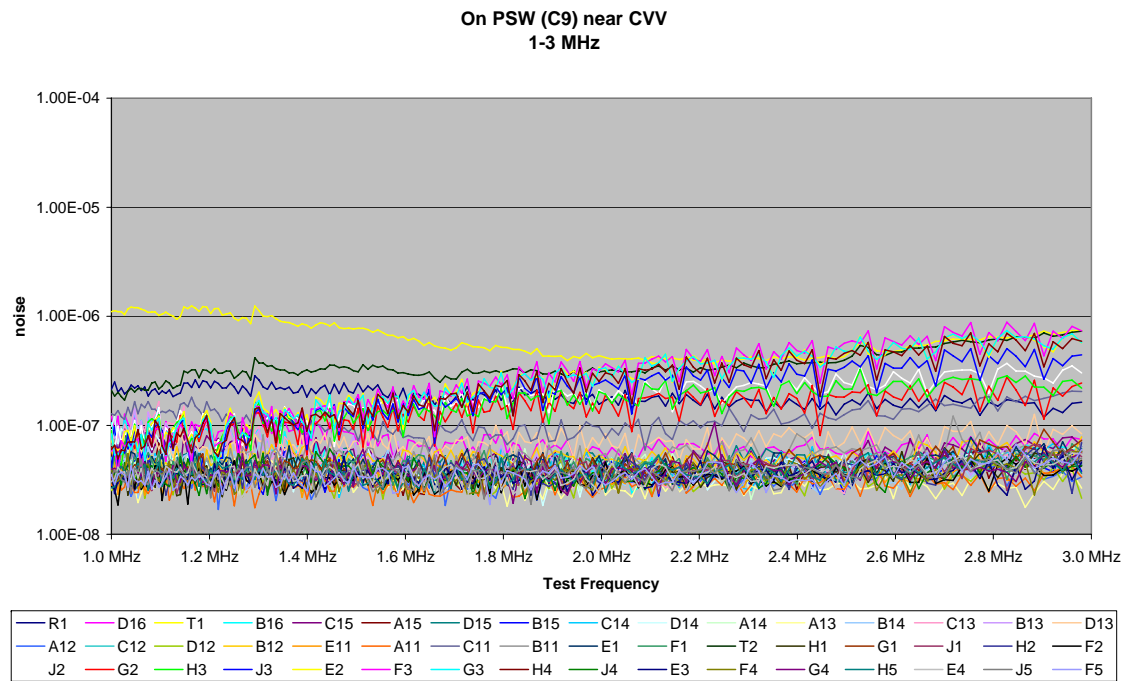


Figure 32



On Bias (C3) near CVV 1-3 MHz

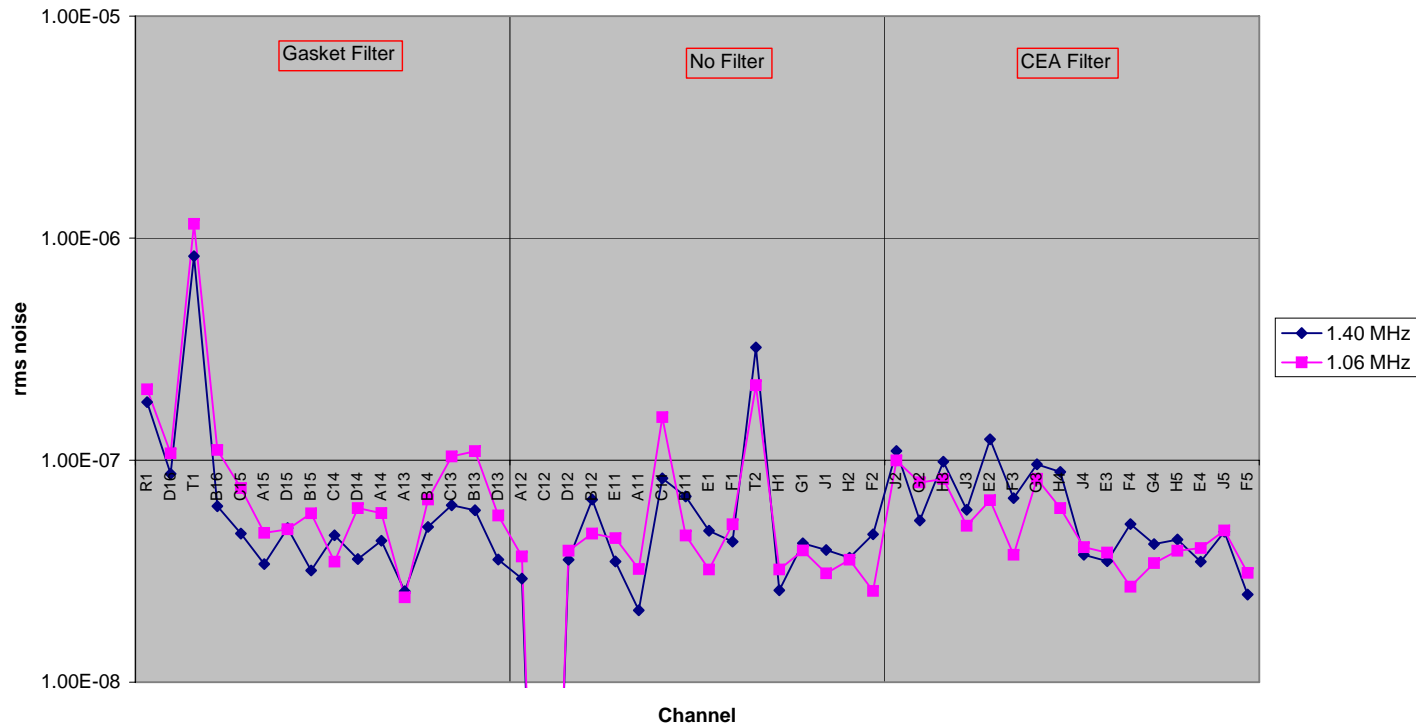


Figure 33



2.4.2 3-10 MHz

On PSW (C9) near CVV
3-10 MHz

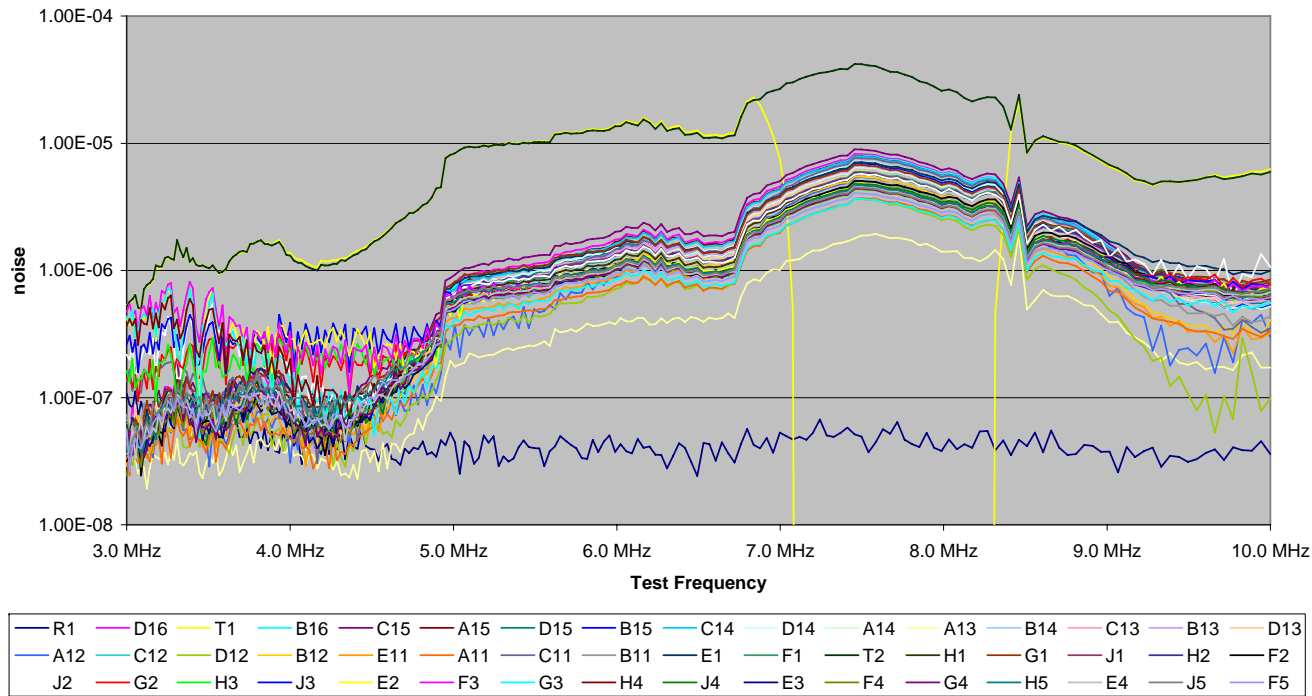


Figure 34



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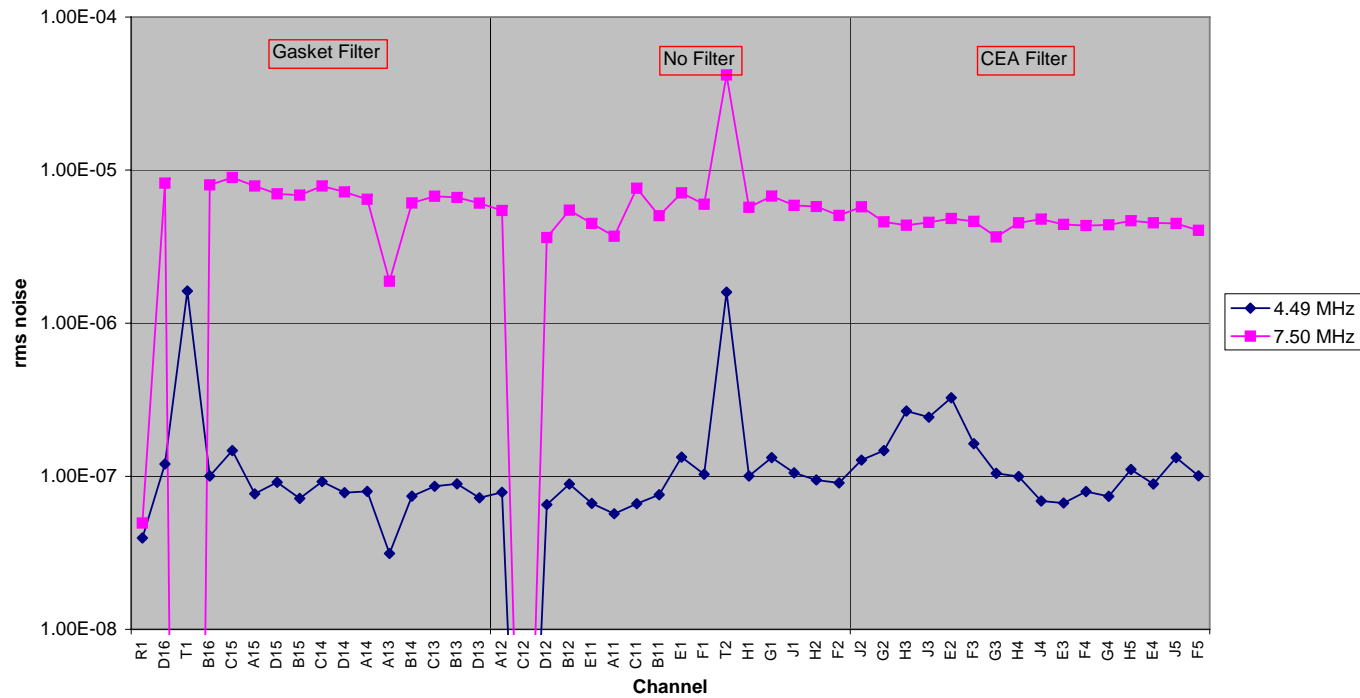
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Doug Griffin

On Bias (C3) near CVV
1-3 MHz





2.4.3 10-30 MHz

On PSW (C9) near CVV
10-30MHz

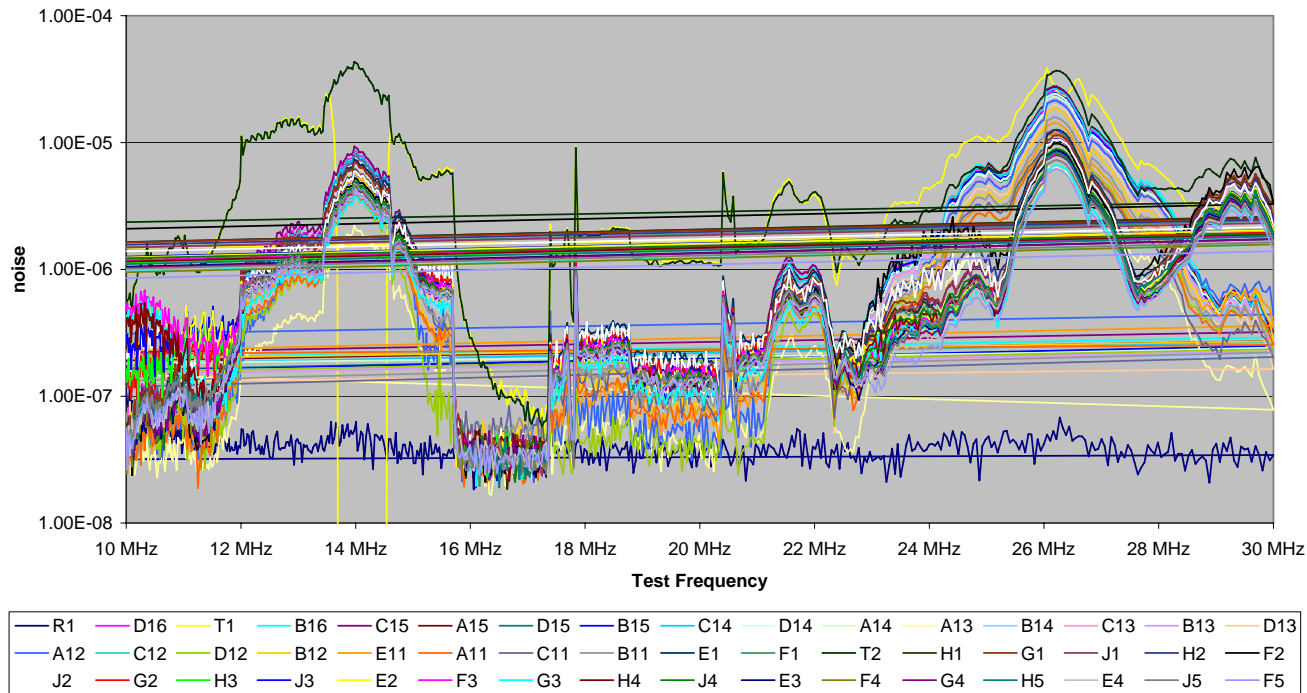


Figure 35



On Bias (C3) near CVV
10-30 MHz

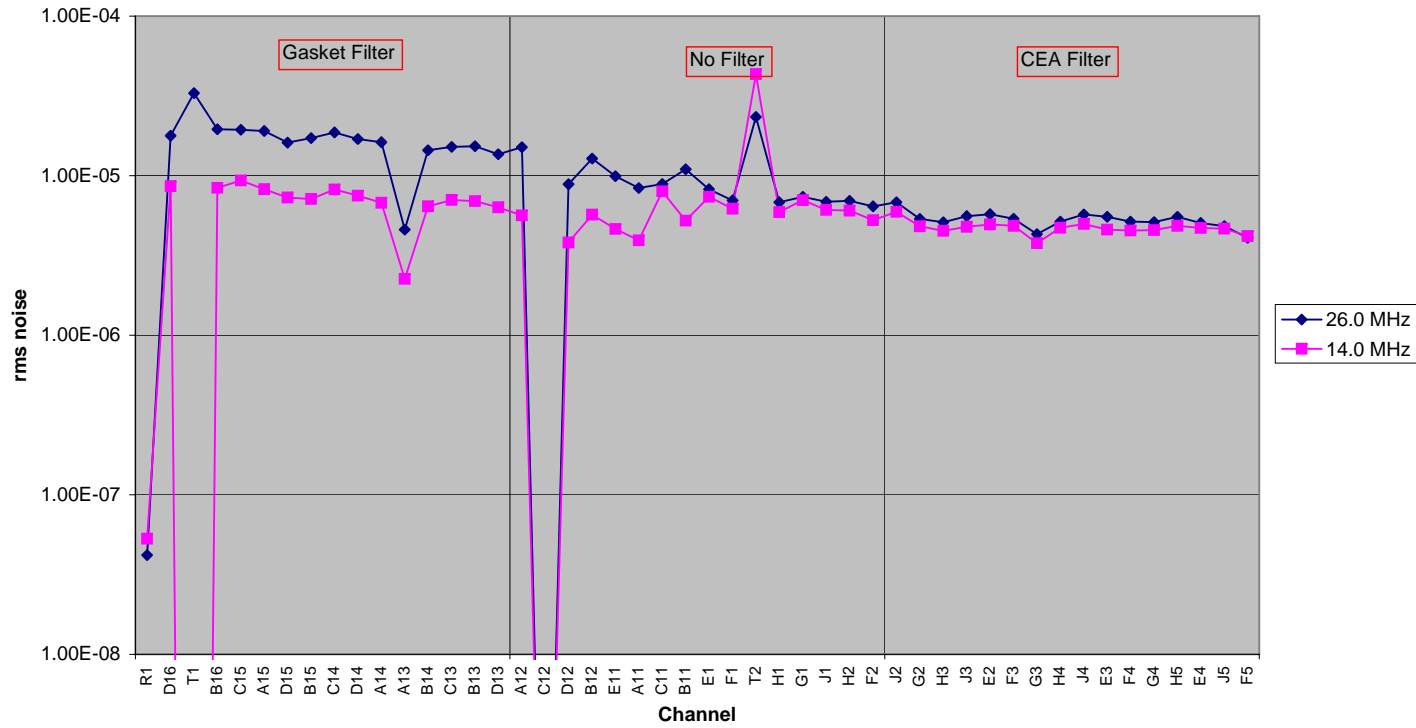


Figure 36



On Bias (C3) near CVV 10-30 MHz

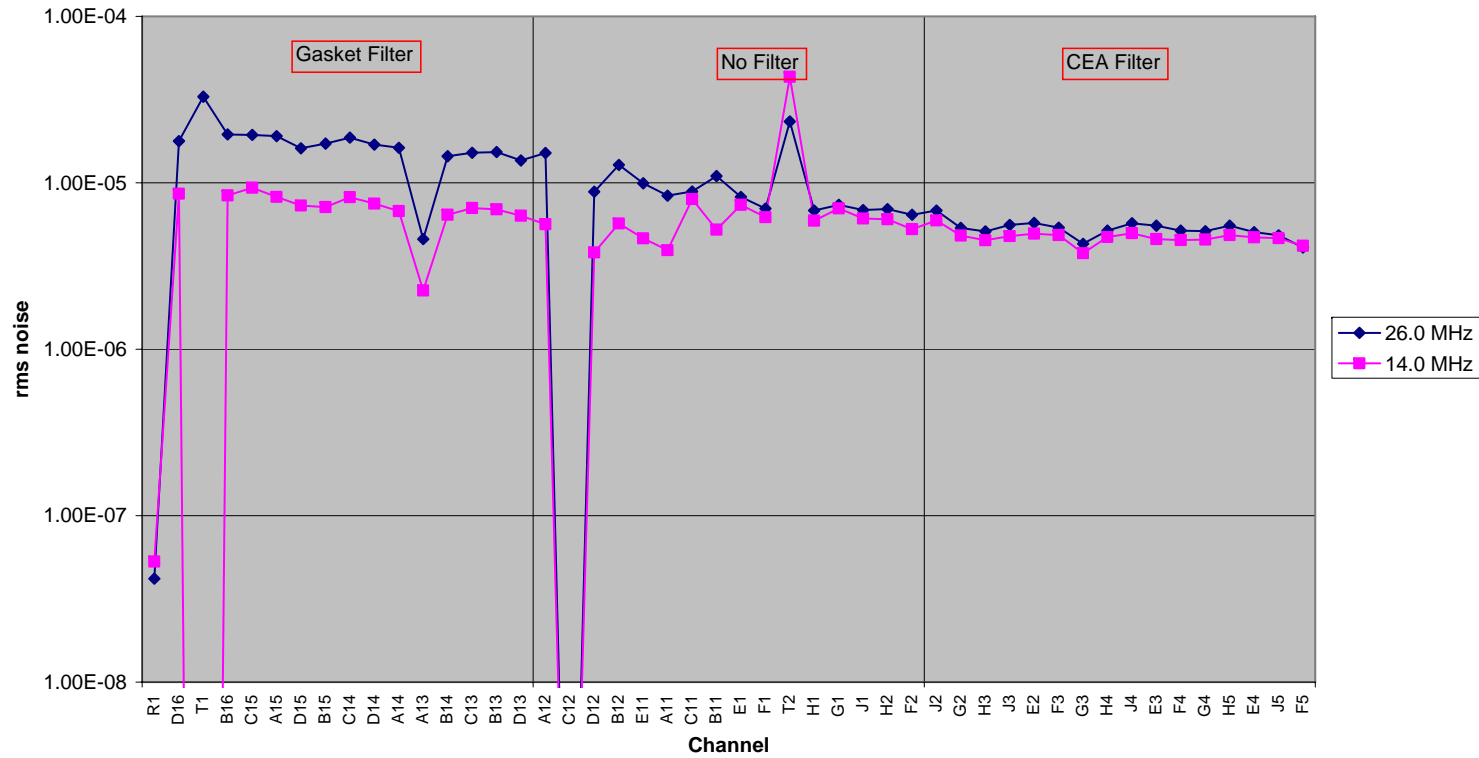


Figure 37



2.4.4 30-50 MHz

On PSW (C9) near CVV
10-30MHz

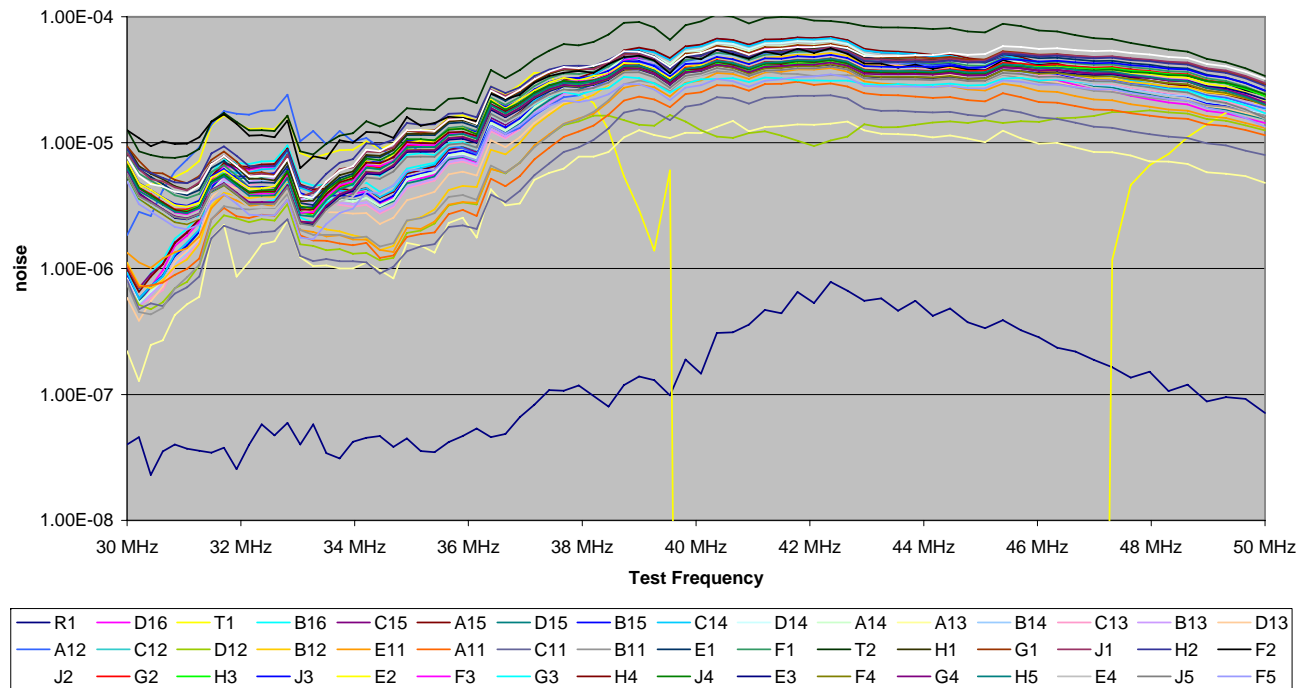


Figure 38



On PSW (C9) near CVV 30-50 MHz

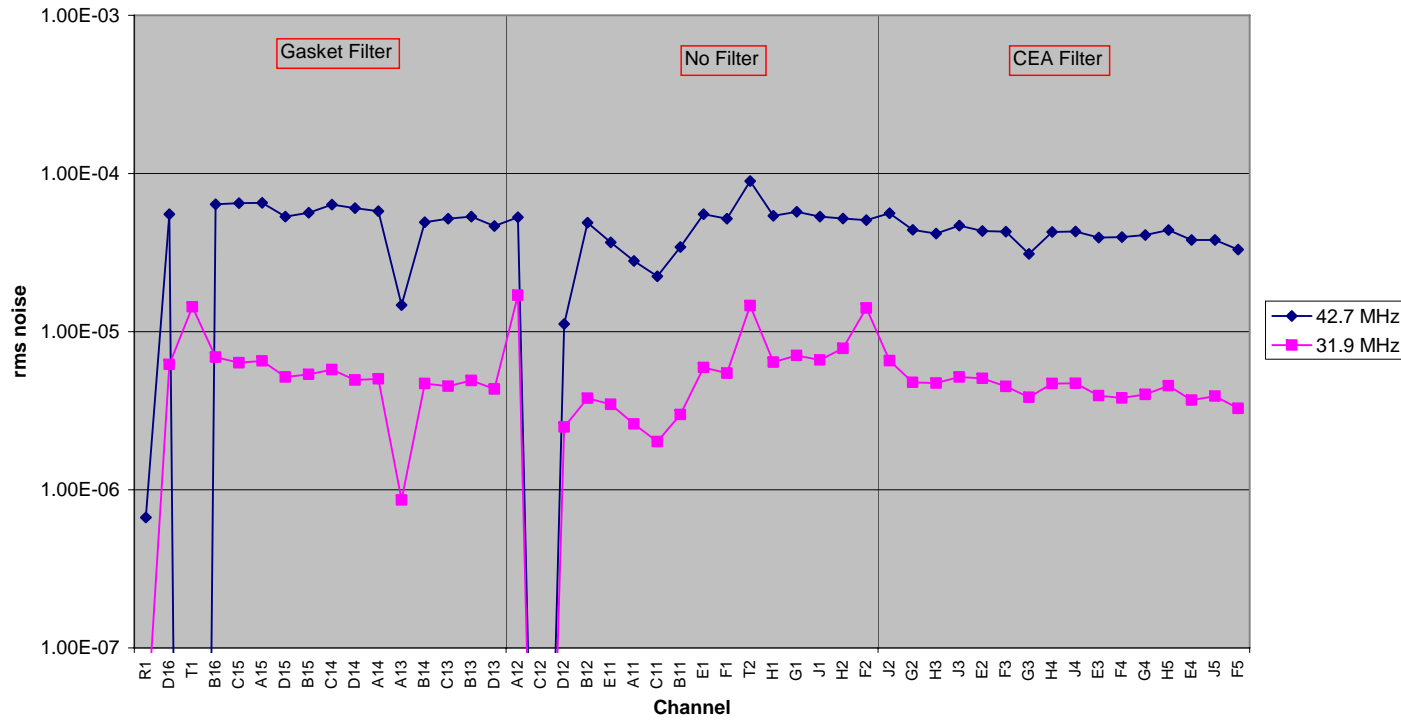


Figure 39



2.5 Injection on detector signals close to CVV (C9) filters rotated (Filter config 2)

2.5.1 1-3 MHz

On PSW (C9) near DCU
1-3MHz Filters "Rotated"

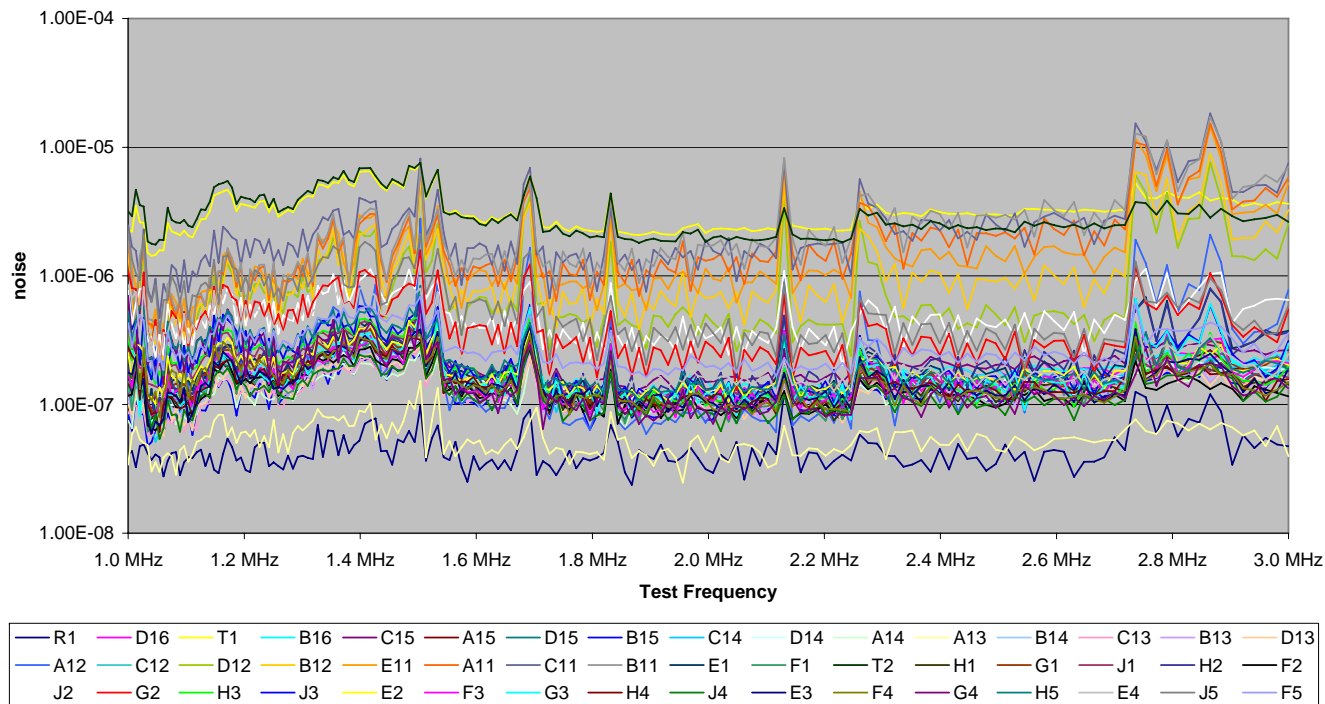


Figure 40



On PSW (C9) near DCU 1-3MHz Filters "Rotated"

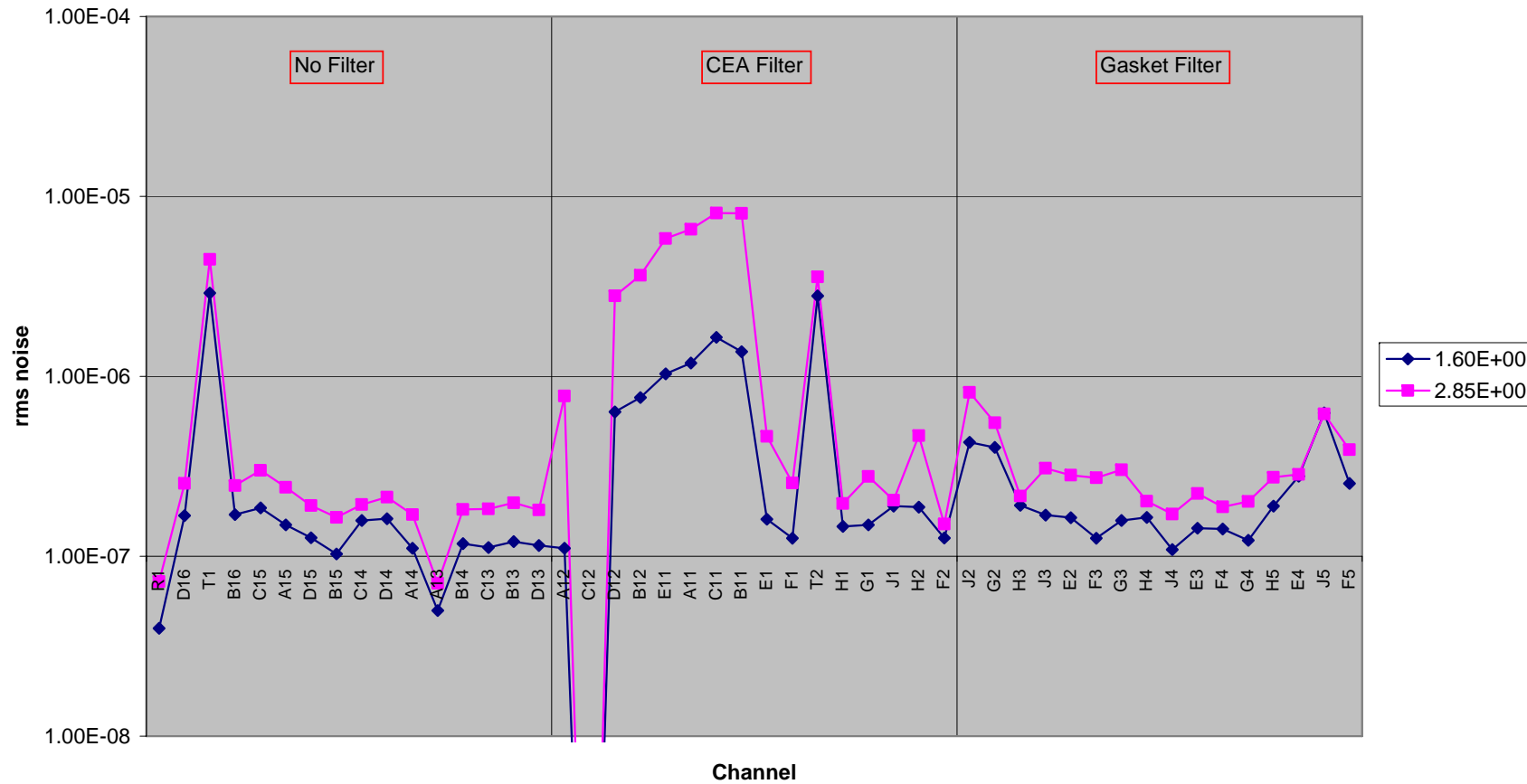


Figure 41

ObsID: 0x3000E370



2.5.2 3-10 MHz

On PSW (C9) near DCU
3-10 MHz Filters "Rotated"

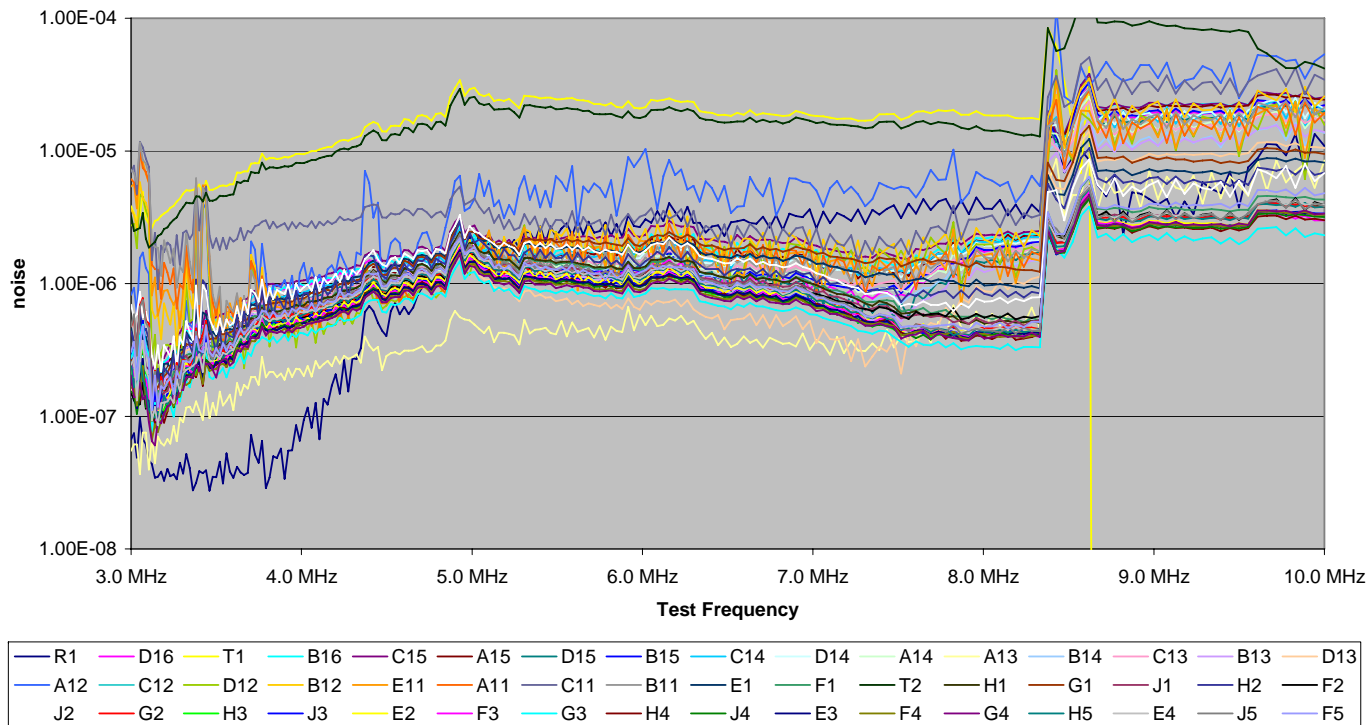


Figure 42



On PSW (C9) near DCU 3-10 MHz Filters "Rotated"

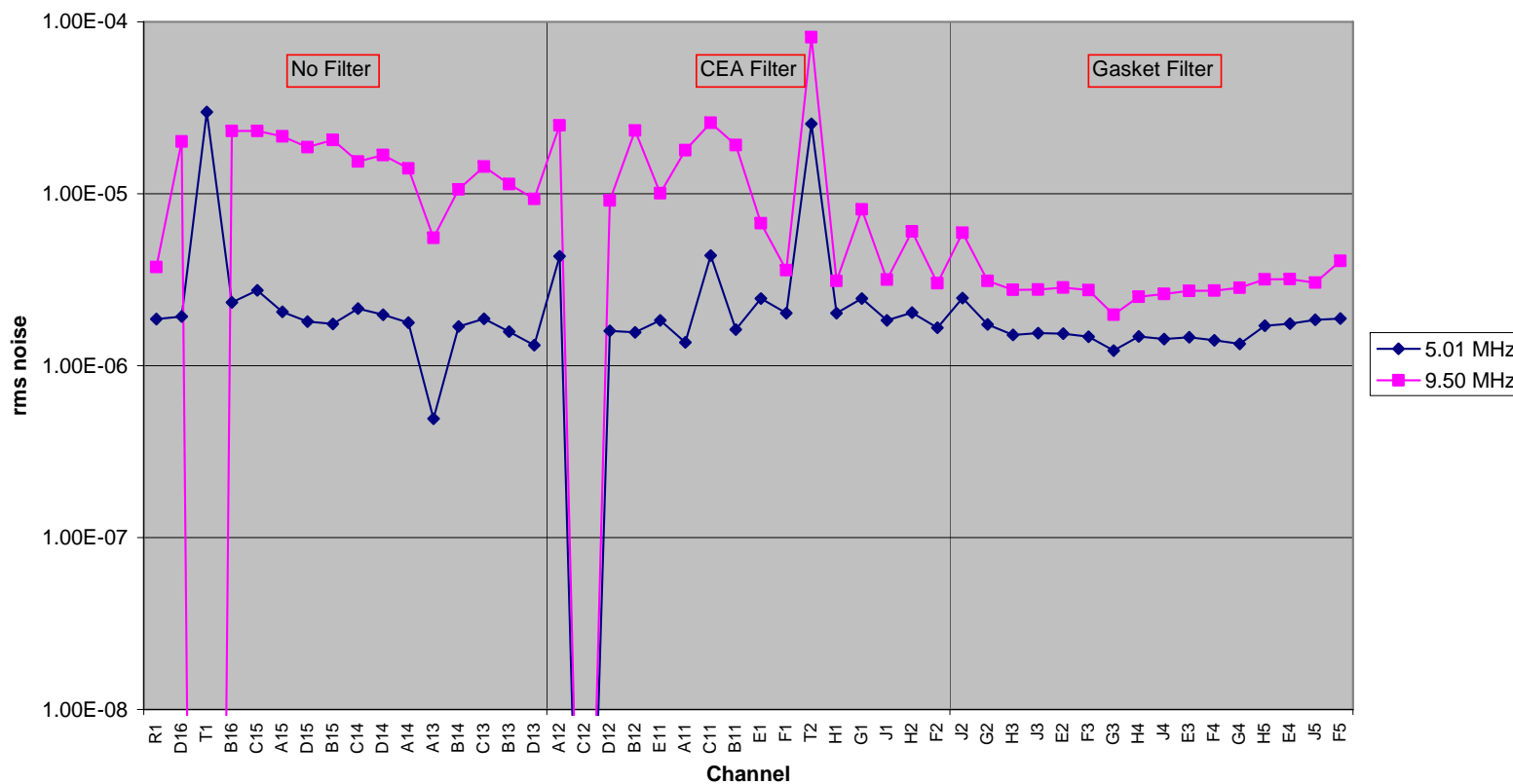


Figure 43



2.5.3 10-30 MHz

On PSW (C9) near DCU
10-30 MHz Filters "Rotated"

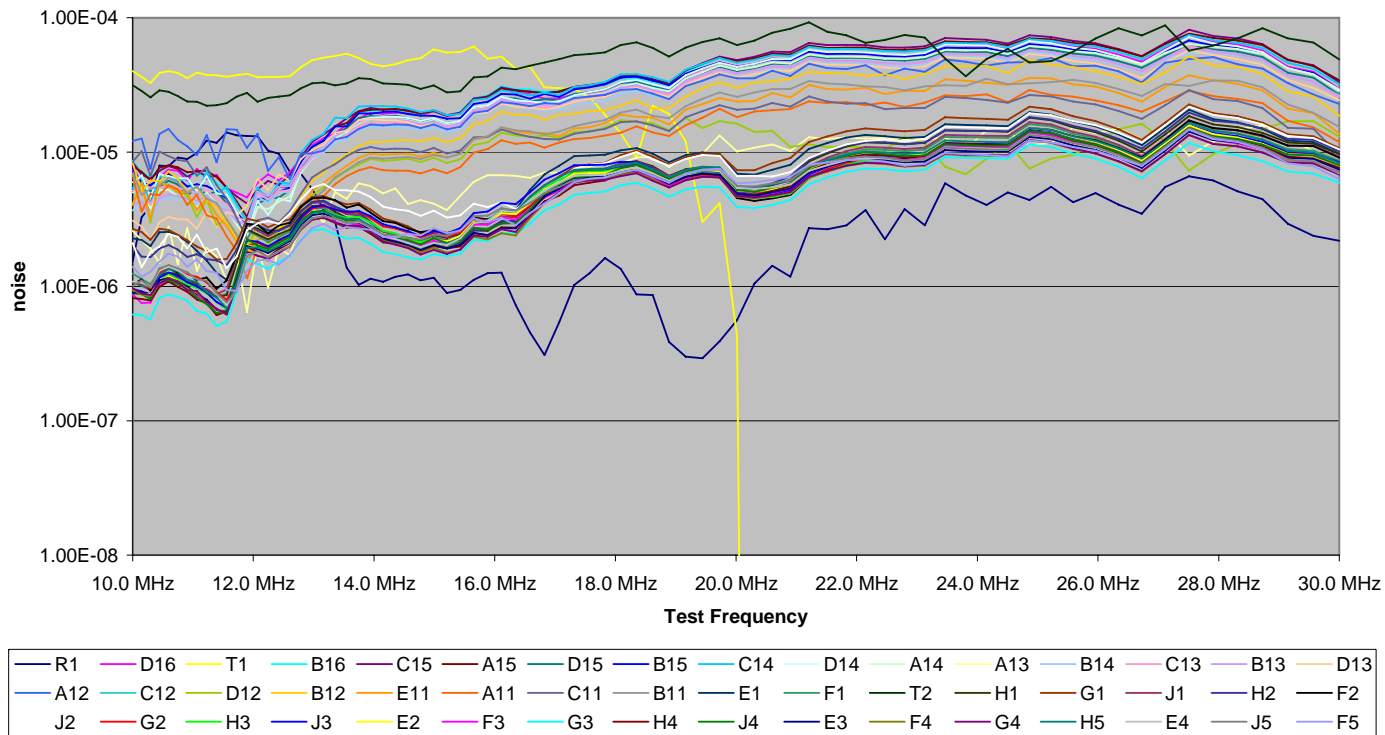


Figure 44



On PSW (C9) near DCU 10-30 MHz Filters "Rotated"

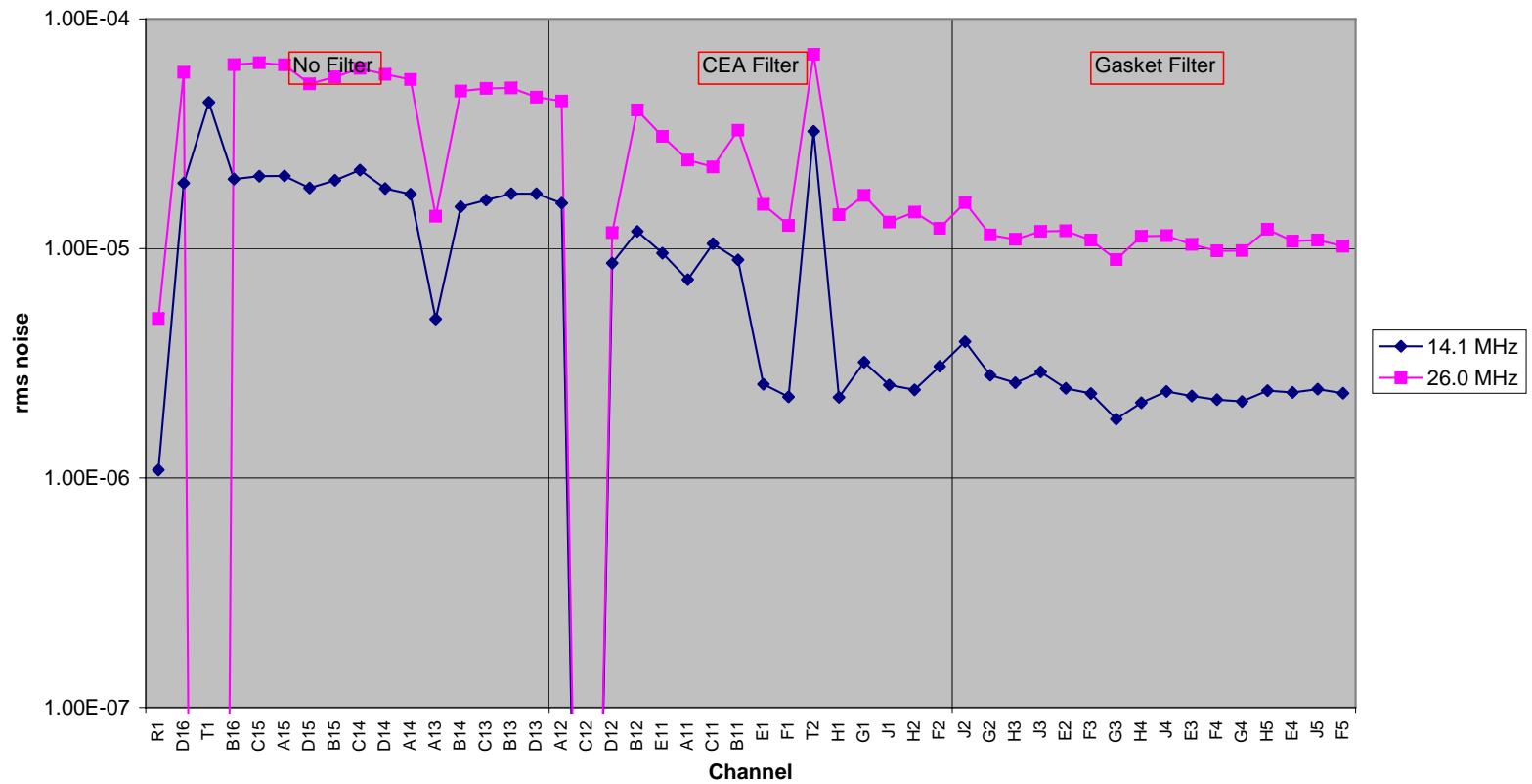


Figure 45



2.5.4 30-50 MHz

On PSW (C9) near DCU
30-50 MHz Filters "Rotated"

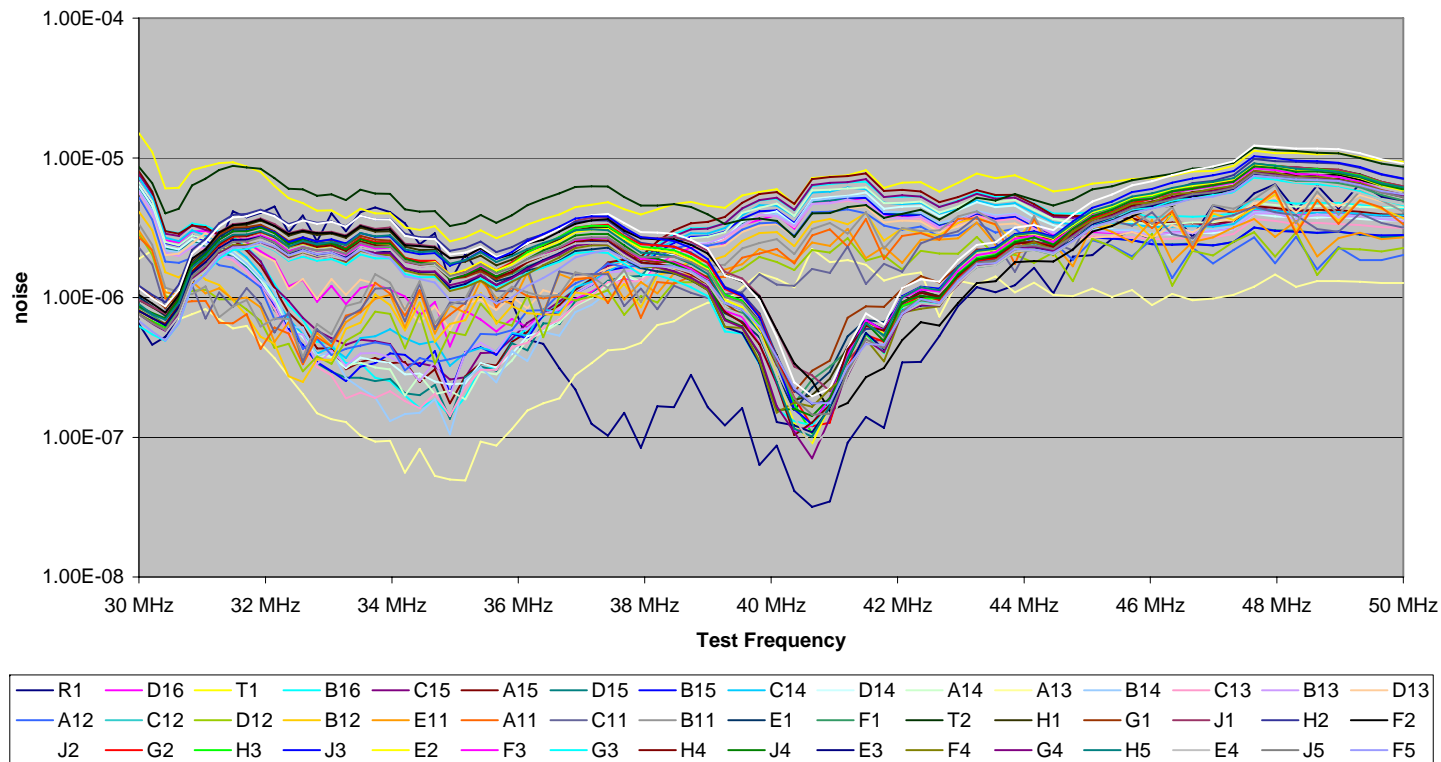


Figure 46



On PSW (C9) near DCU 30-50 MHz Filters "Rotated"

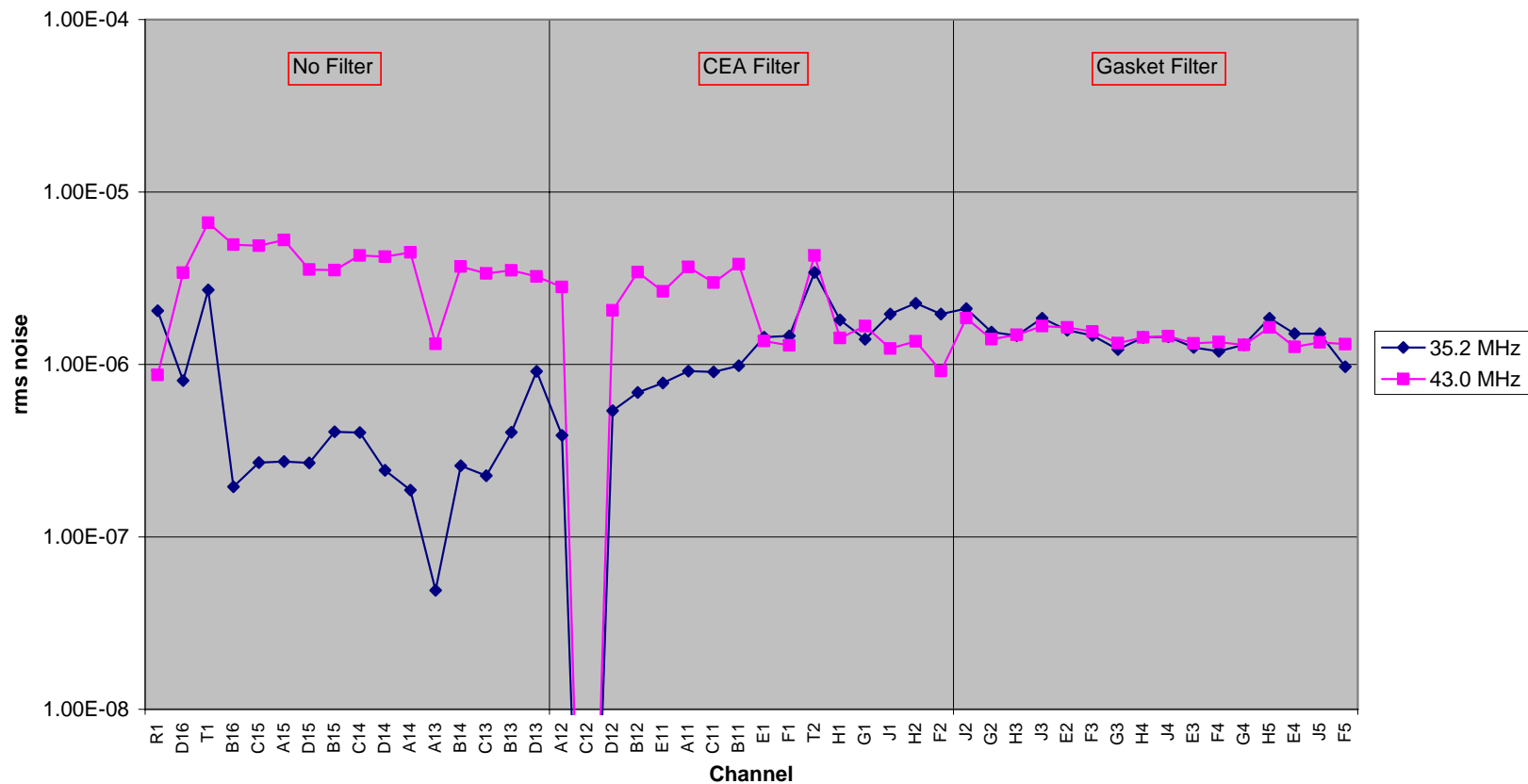


Figure 47



2.6 Inductive Filter Results

2.6.1 Injection neat DCU

Ferrite EMI Attneuation of Signal Offset
Injection on Phot. Signal (C9) @ DCU

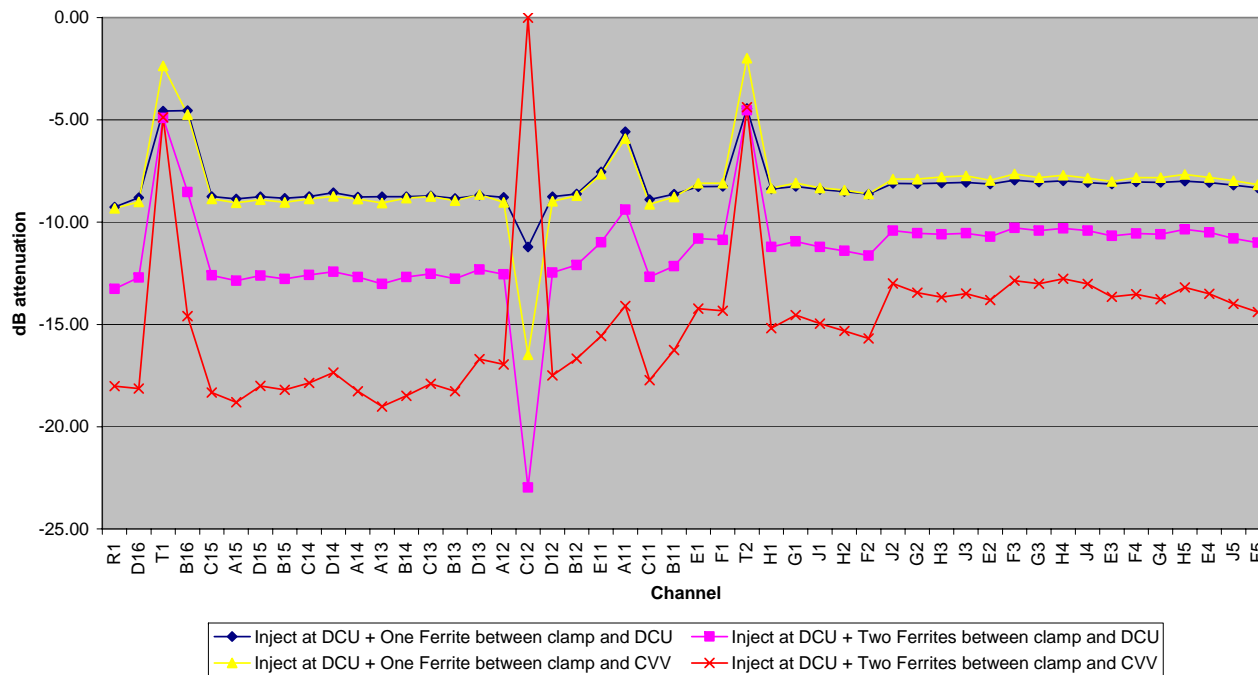


Figure 48



Ferrite EMI Attneuation of Signal Modulation Injection on Phot. Signal (C9) @ DCU

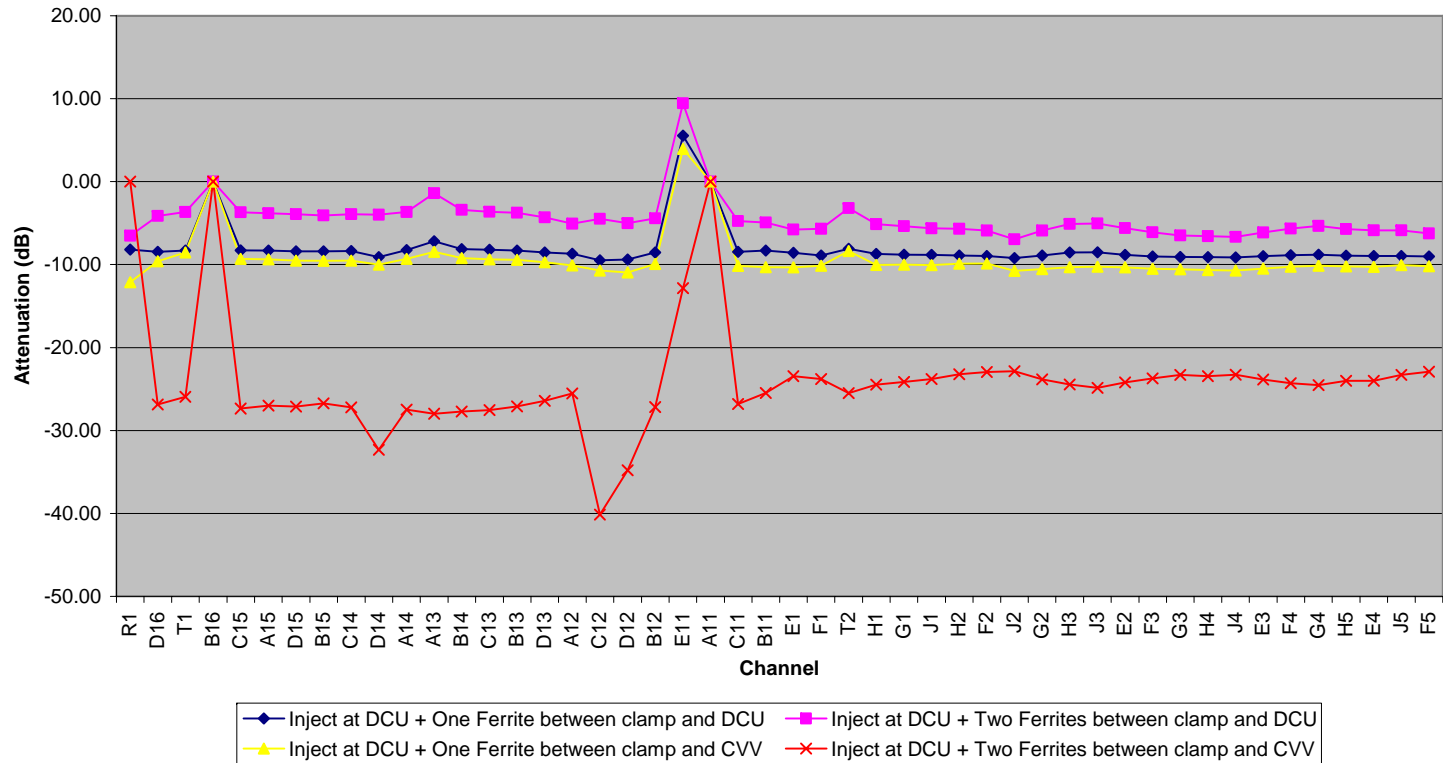


Figure 49



2.6.2 Injection Close to CVV

Ferrite EMI Attenuation of Signal Offset
Injection on Phot. Signal (C9) @ CVV

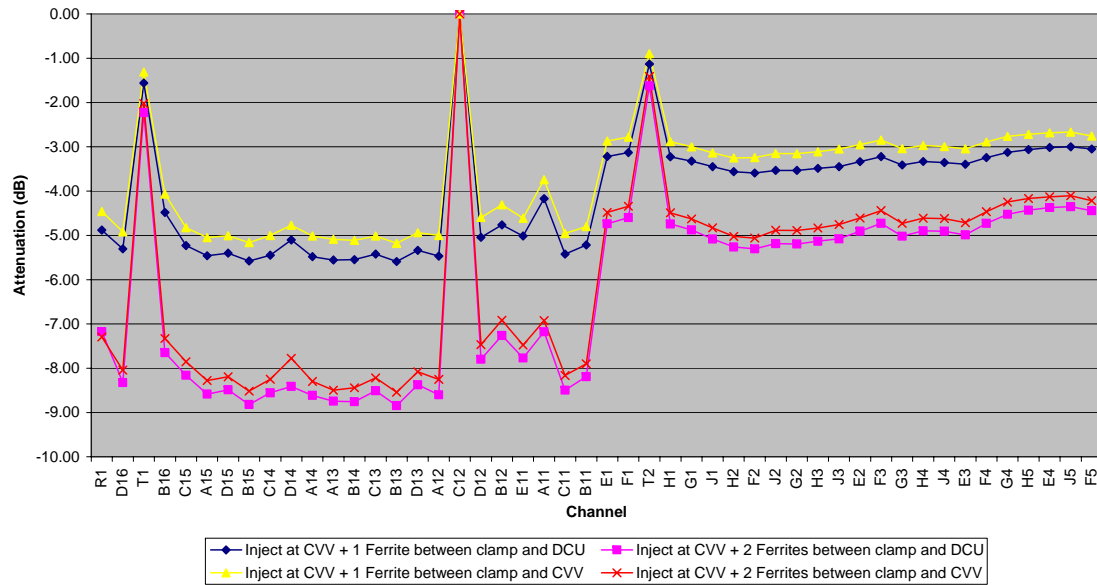


Figure 50



Ferrite EMI Attenuation of Signal Modulation Injection on Phot. Signal (C9) @ CVV

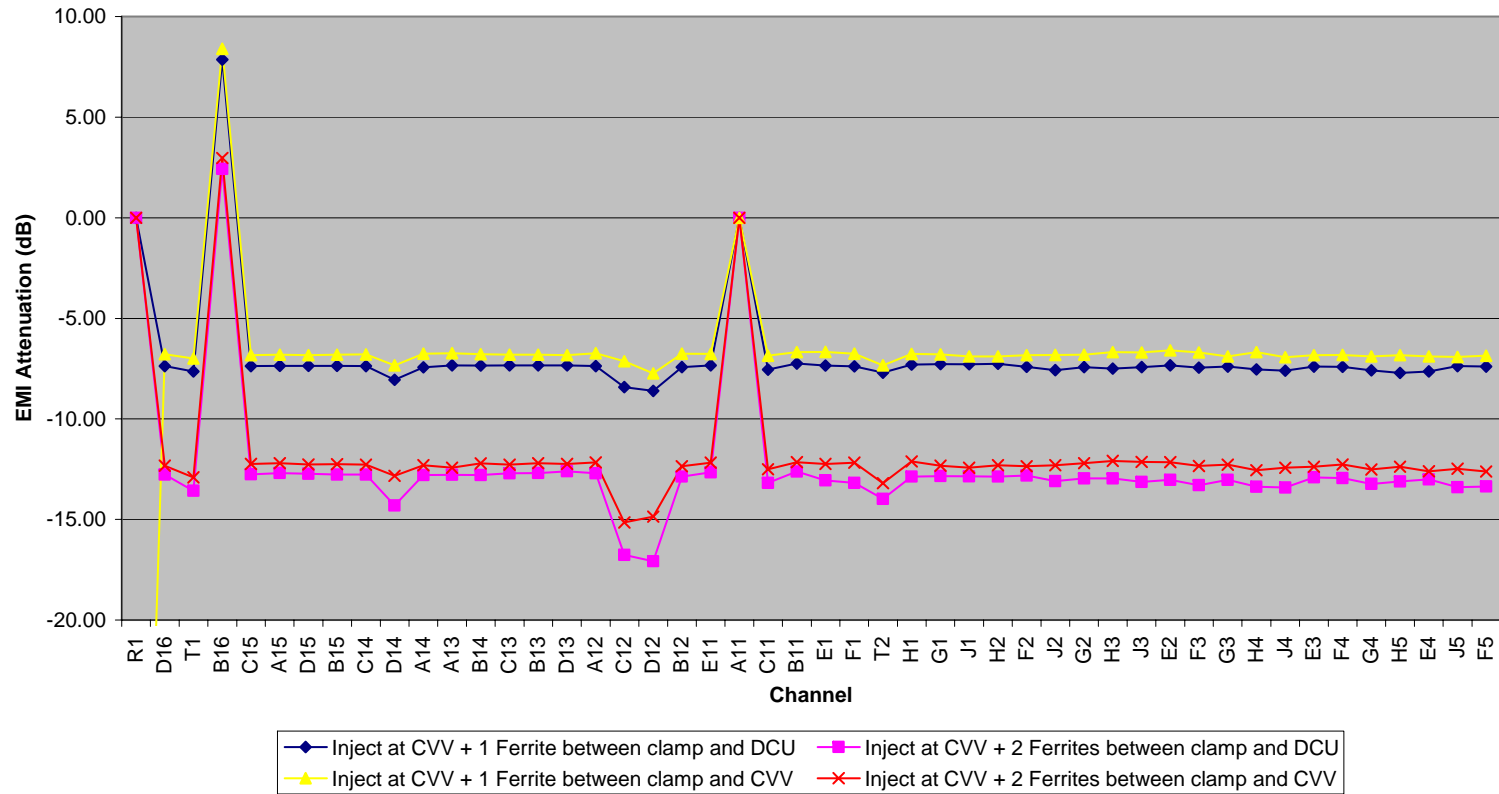


Figure 51



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2.6.3 Injection Close to DCU, Ferrites close to CVV

No attenuation of EMI